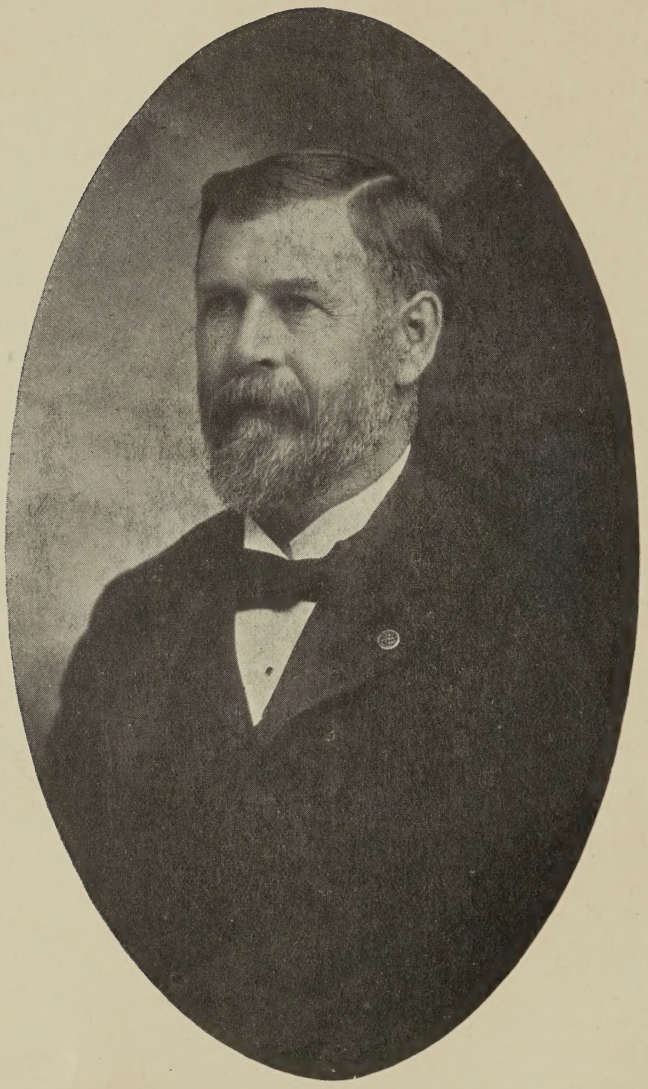
What is Man?

LIBRARY OF PRINCETON
* DEC 19 1908 *
THEOLOGICAL SEMINARY.

Division QH368
Section .B96



Judson D. Burns

WHAT IS MAN?

OR

CREATIONISM *vs.* EVOLUTIONISM

BY
JUDSON D. BURNS, M.D.

NEW YORK
COCHRANE PUBLISHING CO.
1908

Copyright, 1908, by
JUDSON D. BURNS, M.D.

CONTENTS

PAGE

PREFACE 1

INTRODUCTION 3

CHAPTER

I. AN EPITOME OF THE EVOLUTIONARY SCHEME FROM MONERON TO MAN 7

II. THE ARGUMENTS UPON WHICH EVOLUTIONISTS BASE THEIR THEORY—ANSWERS TO THE SAME 22

III. OSTEOLOGY IN MAN AND MONKEY 78

IV. THE BRAINS OF MAN AND MONKEY COMPARED BY ANATOMISTS 86

V. EMBRYOLOGY AND HEREDITY 102

VI. THE SUPREME POWER OF THE UNIVERSE 143

VII. THE ANTIQUITY OF MAN—EUROPE 184

VIII. THE ANTIQUITY OF MAN—EGYPT—SCIENTIFIC ORIGIN OF LANGUAGE — EGYPTIAN LITERATURE — MAN'S PRESENT STATUS BEGUN 198

IX. THE ANTIQUITY OF MAN—CHINA—MAN'S PRESENT STATUS, CONTINUED 251

X. CHALDEA—THE PLACE OF THE BEGINNING—THE GARDEN OF EDEN LOCATED—WHERE ADAM WAS CREATED—THE FLOOD A LOCAL CATACLYSM 265

XI. WHEN MAN WAS CREATED—FOR WHAT PURPOSE—MAN'S PRESENT STATUS, CONCLUDED—MAN'S PROBABLE OBJECTIVE CONSIDERED 305

PREFACE

I FULLY realize that I have undertaken a task of no mean significance when I undertake to refute the doctrines advocated by such eminent men as Charles Darwin, Herbert Spencer, Prof. Thomas H. Huxley, and Dr. Ernst Haeckel; all of world-wide reputation, and made so by the advocacy of the doctrine I have engaged to refute.

Whether or not I have succeeded in the refutation of the doctrine of evolution as enunciated by those eminent men, I leave to the judgment of those who may do me the honor to read my words.

I trust that those who read this book will overlook the fact that its author is an obscure personage, and only consider the subject matter presented, passing judgment upon it on its merits.

These words have been written after a study of the theory of evolution covering several years' time, and with a thorough desire to arrive at a satisfactory conclusion for myself. They were brought about by the following incident:

Some years ago, while attending a medical convention in a certain city, one evening, I, with five others, "purveyors of pills," went out to a restaurant for supper. While at table, the conversation turned to church matters, and religion in general, and from this to Darwinism. One of the company said: "I am a member of and a Deacon in the First Baptist Church of ——— City; I go to church pretty regularly, and pay my money to the church, but I don't believe a word I hear preached; I don't believe in the doctrine preached in any of the churches to-day. I am an evolutionist, and I think there is no more inspiration in the writings of the Bible than

there is the writings of Darwin; I think the Mosaic account of the creation is nothing but fiction, not a word of truth in it."

This declaration, made so broadly and bluntly, shocked my sensibilities not a little. It made a deep impression on my mind. I thought it over again and again, and determined to investigate for myself, and find out the truth of the matter, if I could. Accordingly, I procured the works of Darwin, Spencer, Huxley and Haeckel on evolution and kindred subjects, besides the best works on biology, anthropology, ethnology, the antiquity of man, and geology. Then, with a good encyclopedia to refer to, I began the study of the subject, and have canvassed it to the best of my ability; and now I make known the result of such investigation.

I trust the contribution may be received in the spirit in which it is given, overlooking the many imperfections of an inexperienced author.

JUDSON D. BURNS, M.D.

Grundy Center, Iowa, 1908.

INTRODUCTION

THEORIES are formulated, hypothecations set up, in attempts to find bases from which to explain different phenomena. Many a theory has come to be accepted, in the past, that has later been found to be false; and such a theory has often stood in the way of recognition of the truth. It has biased the mind and led to false interpretation of the facts. In this way wrong impressions, of the most momentous character, gain the ascendency. This is preëminently the case with Darwin's theory of the evolution of the species.

In all the affairs of men, especially in the field of mechanical physics, theories are tested in every conceivable manner to prove or disprove them; but here is a theory advanced which it is not even pretended has been tested in any branch of the great field of nature; and it is accepted by many and declared to be a scientific statement of the origin of all the species of organic creatures. Now, it is not only without proof, but it is so contrary to the facts, that every law of nature, in the field of reproduction, is arrayed against it. Nevertheless, in the face of all nature to the contrary, this untested theory is declared to be a scientific truth.

While it is proposed in the following pages to combat and refute, on scientific grounds, the Darwinian theory of evolution, not making use of the written word of the Bible in proof of our position, yet it is unquestionable that ample proof of the fallacy of the Darwinian theory is contained in the Bible itself. Reference is made to that authority at times because science confirms its teachings, and is in accord with our findings.

When we come to the full answer to the question, "What is Man?" we are forced to go to the Bible for

our answer. Nowhere else in all the literature of the world is an adequate answer given. Suppose we had never heard of the Bible, and knew nothing of its teachings, what would be our condition to-day? Probably we would be entertaining the same ideas that our progenitors did when they sailed from Jutland, worshipers of the god Woden, or possibly worse. Could we then answer the question?

A great deal of trouble seems to have arisen from a want of a proper understanding of the meaning of the word "evolution." A writer on metaphysics, in dealing with evolution, says: "Evolution in the scientific sense, is neither a controlling law nor a producing cause, but merely a description of the phenomenal order; it is a statement of method and is silent about causation.

"Whenever a doctrine of evolution transcends the field of phenomenal description, and claims to give a theory of the productive causes, it then becomes metaphysics and must be handed over to philosophical criticism for adjudication. We may have entire unanimity concerning evolution in the scientific sense along with complete disharmony in its metaphysical interpretation." (Brown.)

In Mr. Darwin's discussion of evolution he has confounded the duties of evolution proper with his own peculiar doctrine as to the causes of the evolution; and so he has become a metaphysician as to the production of the species. Hence we see the term evolution used in one sense on this page, and on another it is used in another sense.

In some places he holds that the cause of new phenomena in the species is the extreme tendency in nature to change; that changes are constantly going on, and these changes bringing out new forms of life by evolution. In other places he holds that the cause of the changes, and the production of new forms of life, is due to a very peculiar something, which he denominates "selection." In still other places, and that most commonly, he holds that evolution is the cause of the new forms of life instead of being a description of the phenomenal order of the development of the new forms of life.

It is this mixing and conglomeration of causes that he makes use of in his "Evolution of the Species," that has served to cover up and mystify his doctrine. This mystification, in turn, has given the doctrine its strength, and is the only reason for its acceptance by many. He is a metaphysician on one page, and a naturalist, writing in the spirit of a novelist, on the next page—making use of the cause that is best suited to the necessities of the case in hand. This practice, coupled with fictitious, purely imaginary interpolations, amplified with specious arguments, which are used with great adroitness, seemingly has served to mystify the whole subject, as well as to render the argument plausible to the unwary or non-critical reader. The fictitious effect thus reached is set over against the theory, as if it were real; with the result, it is ventured, that few comprehend fully his doctrinal theory, because of the metaphysical entanglements, and fictitious interpolations, without which his work is barren.

As a matter of truth, there is not a single essential, biological fact there adduced to substantiate his theory of "The Evolution of the Species." It is surprising, beyond measure, to find this to be actually the case, in all his writings, though they glow with brilliancy of thought.

We conceive it beyond question, in this material world, that every effect must have an adequate cause; that nothing whatever comes by chance; and that like causes, under like circumstances, produce like effects; no difference how remote the time, nor how widely separated the instances of the causes, the action or effect must be the same.

WHAT IS MAN?

CHAPTER I

AN EPITOME OF THE EVOLUTIONARY SCHEME FROM MONERON TO MAN

"WHAT a piece of work is Man!" cries Hamlet. "How noble in reason; how infinite in faculty; in form and moving, how express and admirable; in action how like an angel; in apprehension how like a god; the beauty of the world; the paragon of animals."

From a biological point of view, Man, the genus Homo, is an animal. A biped, bimanous, placental mammal; a vertebrate of the highest order, and possessing qualities of mind superior to that of any other in the animal kingdom; the only form of animal life using articulate language to communicate with his fellows. His habitat is the earth, wherever animal life is found and can be sustained.

But it is not simply Man's classification in the animal kingdom that interests us so much at this time, but rather to inquire as to his origin, his present status, and his probable objective.

While, in this inquiry, possibly little new matter will be presented, endeavor will be made to look at the subject from a different standpoint from that of any other modern presentation of the subject.

Historically, Job was the first man to ask the question which has been taken for the "text" for what is to follow on the subject, a little more than fifteen hundred years B.C. His language was, "What is Man that Thou shouldest magnify him, and that Thou shouldest set Thine heart

upon him, and that Thou shouldest visit him every morning, and try him every moment?" The substance of this question, at least, has been reverberating down the ages. Very probably the same question has been asked thousands of times by inquiring minds.

The Psalmist asked the great question in this form: "What is Man, that Thou art mindful of him, or the son of Man that Thou visitest him?"

To the writer's mind, the answer to this question depends entirely on the origin of Man. In studying this question, therefore, it becomes very necessary and practical to review the subject of Man's origin, inasmuch as there is a controversy on that pivotal point. It is the intention to present, in the following pages, all the facts already known on the subject, so far as the writer is acquainted with them. A different interpretation, however, will be put upon those facts from that of others who have written along these lines and an endeavor will be made to eliminate all fiction from the subject.

There is but one place, to the writer's knowledge, where we can go for any historical light on the subject, viz., the book of Genesis. But this authority has been called in question, along down the ages, very frequently, both as to the authorship and the subject matter. Nothing, however, was offered to take the place of the Biblical history of Man, that would bear scrutiny or stand anything of a test, at any time. At length, however, Charles Darwin, an English naturalist of the highest eminence, formulated and promulgated a connected chain of ideas; a theory as to the origin, not only of Man, but of the entire animal world, differing entirely from the Biblical history, and thereby introducing an entirely new aspect of animate nature, and which, it is supposed, he thought gave a scientific answer to the question, "What is Man?" So that there are, at least, two answers to the question at the present time, which in effect, as well as in the *modus operandi,* differ so widely as to be antagonistic and irreconcilable. That is to say: if either one be true, the other cannot be true. Originally, it was only for the purpose of satisfying myself on the question that I studied the subject.

There are many people, we suppose, who think it does not matter which of the two, if either or neither of the answers is the correct one. Maybe it does not; maybe that Man's status would not be changed, whichever horn of the dilemma you hang your faith upon. But it seems to me that it makes a very great difference, judging from the effects which are seen, as well as from our own reason in the matter.

The following statements, it is thought, are logical conclusions: If the Biblical account of Man's origin be true, his status is fixed, in this world, as a separate creation; a creation that is no relative to any other genus in the animal kingdom; a creation for a purpose; and that his objective is provided for and determined in accordance with laws laid down by the Creator. If, on the contrary, the scheme laid down by Mr. Darwin, commonly known as the evolutionary theory of the origin of Man, be true, Man is an aimless accident in nature; in that, any break in the long evolutionary chain, which might readily have occurred, would have cut Man off entirely; or any imperfections in the transitions, which are made necessary by the theory, would have altered the effect, by changing the sequence from what it would have been had there been no imperfections in the evolutionary transitions. Man would, therefore, have a nondescript status, without an objective and without a destiny, save annihilation, like all his predecessors; it being that he is an offspring from animal life; a relative; one of the family of animal life, all having sprung from a common fatherhood; and why should he have a different destiny from that of the rest of the family?

At the time that Job and again when David asked the question, there was but one answer to the inquiry as to the origin of Man; Darwinism had not then been evolved. If they were constrained to ponder the question in their time, how much more of an incentive have we, in this age, to study it? Apparently this question is beclouded to-day. Perhaps it might be said that it is more of an enigma to-day than it ever was in the past, because of the promulgation of this unique doctrine, and the acceptance of it by great numbers, with and without under-

standing, to an extent that the movement has swept over this country and Europe like a prairie fire, and has influenced more or less the entire rising generation. This doctrine is taught largely in all high schools, colleges and universities. The theory being so startling, it is deemed worthy of consideration, whether true or not. Then again, the college professor who is not up to the times, in teaching the latest in everything, is considered a back number and is liable to have his head cut off, metaphorically speaking; and so he has to teach all that comes from the mill of so-called scientific thought, whether vagaries or not. The subject of biology being in the curriculum, the student is obliged to give it his attention, and accept the teaching, at least tentatively.

It is not common for the student, studying the theory of evolution, to put before himself, clearly and frankly, the question whether or not this theory is a scientific explanation of the existing order of things. To the student, as he looks at nature, the infinite number of details is sufficient to claim his entire attention. These details occupy his mind so constantly that he rarely looks above or beyond them. The superficial sufficiency of the evolution doctrine seems to meet and explain the details to him. As he thus studies nature, naturally enough the doctrine assumes greater and greater prominence, until it becomes a mistaken verity. It is a fascinating study, and in his eagerness to grasp the tangible within his reach, the student forgets the fundamental principles and problems, so that his study of the subject is only superficial. As a result, many have accepted the doctrine as the whole truth; some for one reason, some for other reasons; among which are: First, misunderstanding or lack of understanding; second, because, if this doctrine be true, Man is relieved of all responsibility; third, because it offers a good excuse for religious skepticism, and holds up before him the ever present life, as being all in all; fourth, because it is something new, a fad of the crimp.

It is very easy and catchy as well, to say that the simpler forms always precede the more complex forms, without stopping to ask: Do the simpler forms always,

or even ever, give rise to the more complex, and if so, how? But is it logical?

In the judgment of the writer, no single affirmation has been more prolific of skepticism, has done more to unsettle the faith in Christianity since the Christian era began, than the doctrine of evolution as enunciated by Charles Darwin. The reasoning forces itself on every candid mind: Can there be such a thing as sin in animal life? Have animals souls to be saved? Is it possible that animals have a Redeemer? It is plain that, if one has, all have. The answer comes at once: If Man has no future life, any more than any other form of animal life, what is the use of bothering about it? It is all a delusion. Thus the foundation of civilization is swept away at one fell blow.

It may not be that we shall satisfy anybody else on this question, even though we may know the exact truth; and notwithstanding it has been demonstrated to be the truth at the birth of every representative, of every form of animal life, since the creation; but I have satisfied myself on the question, and I feel it a duty as well as a privilege, to "let my light shine" on all questions of this kind; the reason of each individual is appealed to, and accordingly each individual must decide for himself, before he can logically or reasonably formulate a belief, for or against.

Let us then first study the evolutionary theory of the origin of Man. Even before Mr. Darwin wrote, there were several starts made, by naturalists, to get away from the creation theory and the creation story. At first, writers were moderate and somewhat chaotic in their opinions. Saint Hilaire accounted for the different animals by saying that what constituted what are now called species, were degenerations from the same type—thus suggesting evolution by degeneration; but that theory would not fit at all in the synthetic evolutionary scheme.

Lamarck at first believed that "The use and disuse of organs according to necessity was sufficient, as a principle, to account for the development of new organs, and the lapse of others." Later, in 1801, he was the

first to dispute the separate creations, as well as the immutability of the species.

Time is one of the necessary elements in the scheme of evolution, and, therefore, there being no possible objection, the advocates of the theory appropriated all they wanted; varying in their estimates greatly, until the latest school decides on a round one hundred million years as the time necessary in which to build the animal world by evolution.

Sir Archibald Geikie says: "Of the first appearance of organic life upon our planet we know nothing. Whether plants or animals came first, and in what forms they came, are questions to which as yet no satisfactory answer can be given. But it is in the highest degree improbable that any trace of the earliest beginnings of life will ever be found."

It is gleaned from the writings of evolutionists that they think animal life and the animal world, at least in its beginning, came first. Starting then, away back there one hundred million years ago, some time perhaps in what is called the Laurentian period, at a time when this earth was a barren waste, not a leaf nor a blade of grass appearing, and before the rocks of that period had even begun to form, life somehow, somewhere, some way or other *began;* and was made manifest in the one-celled animalcula called the moneron. Whether the whole family of the monera were in this, some way brought into being at once, or whether there was but a single representative at first, they do not tell us. It is to be presumed, however, that the whole family were spontaneously called into being at one and the same time, inasmuch as no progress, along the evolutionary lines so far laid down, could be made with but a single representative of the species, as we shall see further along.

Numerous theories have been advanced as to how life started; as to how this little cell came to have the life-element in it, and it was then the representative of all the animal life, and the progenitor of all animal life in the succeeding ages, up to this time. I will leave this subject, at this time, for another place; sufficient

now to say that, by some means, it is held, the moneron is born.

Think what had happened! Something entirely new had mysteriously come into the world. An entirely new element had come into existence, perhaps clandestinely, on this, so far, barren sphere. Life! What an epoch! Think of it! The shuttle had been thrown for the first time that was eventually to weave the great fabric of animal life on this earth, and continue it forever.

From the Darwinian standpoint, not a particle of intelligence was manifest on this earth, save only what this new element brought with it; and whither it came or whither it goeth, no man can tell. Nevertheless, life had started on its destiny, in this miniature cell, without architect to make plans, or an intelligent hand to guide the way. Chaos reigned supreme. Looking backward, we can just begin to comprehend the great possibilities stored up in this miniature, single life-cell, which is destined, or predestined, without architect or guide; without the shadow of a brain-cell, and therefore absolutely without any intelligence whatsoever, to build the animal world; being charged with the great, the mighty responsibility of fathering all forms of life on this earth, of whatsoever shape or form, be it beast, bird, fish, or reptile. Reader, do you realize, can you realize or even imagine, upon what a slender thread hangs our being?

Is Sir Archibald Geikie right when he says: "Of the first appearance of organic life upon this planet we know nothing. It is in the highest degree improbable that any trace of the beginnings of life will ever be found"? If he is right, from whence comes the information that life, on this earth, began in the monera? Is it not purely assumption, made necessary by the scheme of evolution? It seems very reasonable and probable that Sir Archibald Geikie is exactly right; but, such is their theory, and that is what we are considering.

This globule of protoplasmic matter called the moneron, for the first thousands of years, a very long but indefinite time, had no nucleus, and was therefore incapable of budding or segregation, consequently could not grow or change its form; neither could it propa-

gate new cells; and so it becomes a great mystery how life was perpetuated in this globule, during all these ages. But eventually, another stage of development succeeded; a nucleus was implanted in the life-cell, which gave it new possibilities. The single cell could now subdivide itself and thus become "many cells." A brand new creation? Rather a brand new manifestation of life, an advancement. This new manifestation of life was brought about by a law, as Darwin supposed, and which he at first stated in these words: "The law of selection by natural adaptation," but which he later changed to read, "Natural selection." At a still later date he adopted Herbert Spencer's wording of this supposed natural law: "The survival of the fittest." And on this dictum, ignoring all other natural laws, he builds the whole scheme of "The Evolution of the Species." Think of it for one moment! All the possibilities of the future development of animal life to be hung on the perfect working of this one antiethical law, the "Natural selection" of Darwin, "The survival of the fittest" of Spencer, or "The struggle for life" of Huxley; which they say are one and the same thing. Can anybody guess how the world struggled along for at least nearly six thousand years without those laws? Before they promulgated their antiethical law, there was in operation an ethical law in nature, that can be traced back as far as the creation, and is of far greater consequence, it would seem, than this other law (?), even though much less has been said about it. The formula is very simple and easy to understand: "The struggle for the life of others." A beautiful conception and most appropriate wording for a very potent law of nature. This is Mr. Henry Drummond's contribution on the subject, and with it, Darwinian evolution is completely routed from the field. Of course Mr. Drummond makes the attempt to erect his own scheme on the ruins of Darwinism, but we shall advert to that later on.

"The struggle for life" represents egoism; "The struggle for the life of others" represents in its fullness, altruism. And so, we have these two words representing two principles claimed to be in nature by different schools of

evolution. They are perfect antagonisms; perfect antitheses, expressing two opposite characteristics in the animal, as well as in human life. The one looking after self to the exclusion of every other creature; the other sacrificing self for other creatures. They have been called characteristics; neither can be dignified into a law of nature, because neither all animals nor all human beings observe either of them; and we know that every one cannot observe both of these principles at the same time; or, in other words, no one can have two opposite characteristics, as this involves a contradiction. But, reader, which of these two characteristics forms the greater factor in the building of the animal world? In the brute, both are instinctive, if at all, in different personalities; in the human being, either characteristic can be acquired. Darwinism builds the world with egoism alone. Why entirely ignore "The struggle for the life of others"? Taking no account of the love, the patience, the tender care and the self-sacrifice, the promptings of instinctive duty, that even the brute shows so markedly to its offspring, he formulates his scheme with egoism alone. Mr. Drummond very pertinently remarks: "Without the struggles for the life of others, obviously there would have been no others. Egoism would soon kill itself off and then there would have been no evolution." Egoism may propagate the species, but we must have altruism to preserve and rear them. Now I apprehend the truth to be, that both these two characteristics (they cannot be called laws) have been working side by side ever since the creation; without the latter perpetuation would be an impossibility.

But to the story. It is said that in time these "many-celled" animalculæ developed into "hollow-spheres," and so, in the Cambrian period, came the amœba; the first to have a primary stomach. This new growth has the quality of motion, in a limited degree it is true, but still it has the new quality, and is an advance over its predecessor.

In the Silurian period came the flat worm, and then the cord worm, consisting of an aggregation of cells. These animalculæ subsist by burrowing in the slimy protoplas-

mic matter at the bottom of the sea. It is estimated and claimed that it took fifty million four hundred thousand years to complete this period of advancement, by evolution.

In the Devonian period the lowest order of fishes developed: the *Balanoglossus,* having a head like an acorn, and a broad, flat tongue, always extruded, and a long tail.

About this time the vegetable world had made a start; the fern alone decorated this earth. It is also said that, during all these ages, these lower orders of animalculæ kept multiplying, *multiplying,* MULTIPLYING in numbers, as there were none of the higher forms of life, as yet, to prey upon them, and so, life developed luxuriantly, and "took on" a new form: "skulless vertebrates," as represented by the *Amphioxis,* a very low order of fishes, with a tail on both ends, was the next in the Cambrian period.

Now, reader, right here is where the wonder of the world was performed. That the law (?) of "selection" should so influence procreation that it should induce the *invertebrate,* a simple little aggregation of organic matter, without a bone in its body, to bring forth, from its primordial cell, its spawn, if you please, a *vertebrate*—a fish with a back-bone and a spinal cord with all the nervous accompaniments, is an exhibition that stands out as the most unique freak that nature had fathered (if it were true); it stands among the greatest of imaginary achievements in the world's history. Especially is this true since, according to their own tell, there had been no "struggle for life." This law (?) had cut no figure whatever, so far, because there were no higher forms of life to prey upon those primary forms of life, and they could not put up much of a struggle between themselves. Apparently all lived together in peace and harmony, thus far. The law (?) of "the survival of the fittest" had not, as yet, had anything to do with the evolutionary process. It would be appropriate then to ask, What, from a Darwinian standpoint, has furnished the impetus for the change, the advancement, in the evolutionary process, so far?

Then came the "lamprey" or "mud-fish," the first of the fishes to have eyes, in the Permian age. How came they to have eyes? Did "selection" divine that they needed eyes, and put them there? This stage of development took about thirty-two million years to complete itself.

Now came the "gilled salamanders," and then the "tailed salamanders," as represented by the *Amblystoma;* the first of the *Proreptilia,* in the Trias period. In the Jura period came the "mammal reptiles," of which the *Iquana* is the type. Then the "primary mammals," of which the opossum is the most perfect specimen, came in the "Chalk period." Here is another space of fourteen million eight hundred thousand years; and by this time the pine forests had sprung up and covered the earth.

In the Eocene, Miocene and Pliocene ages, the marsupials, of which the stenops is the first, came forth. Then the "semi-apes"; the lemur, as represented by the *Semnopythecus.* Now, as the leafed forests grew to luxuriance, the "tailed apes" developed. Soon the "narrow-nosed apes" made their appearance, of which the gorilla is the celebrated representative. Here again we have the lapse of some five hundred thousand years. And then, in the Glacial period, came the "man-like apes," of Asia and Africa, the gibbon. And lastly the orang-utan, and the chimpanzee, Man's immediate predecessors.

Granting all that has preceded, for argument's sake, many or all the steps already taken presenting miraculous difficulties, there is now, seemingly, an impassable gulf between Man and his nearest approach in the animal kingdom. This has ever been a hard chasm to bridge. They say there is a missing link here, a something that represents a creature that stands half way between Man and monkey. The missing link has been diligently hunted for, but it cannot be found. However, not in the least dismayed, they proceed, and out of the "corn-stalk fiddle" is to be made the "parlor-grand" piano, simply by the inherent, latent power stored up in the fat corn-stalk. All this is done without an

impetus, unless it be the vagary of selection self-administered, and absolutely without an architect. Man is to be projected from the orang-utan or the chimpanzee, which is not yet fully decided. *How* is the ape, the automaton, to be transformed into the reasoning Man, with a conscience as his monitor? The vault of the skull is to be enlarged so as to contain 48 to 50 ounces of brain matter, instead of 18 to 20 ounces; and in that additional brain substance is to be located an endowed center for each of the different faculties of Man, while all the varied emotions possible to Man are to be located and provided for.

But the brain capacity, on which depends the intelligence of Man, with all the refinements that the mind of Man is capable of—God's gift to Man—is not the only distinguishing mark that differentiates Man from the orang-utan or the chimpanzee. There are a multitude of very essential anatomical differences to be reconciled. The chimpanzee must shorten his arms; must readjust the muscles of the thumb; must get rid of an additional vertebra, and an additional pair of ribs; he must cut off his canine teeth and close up the gap in the jaw accordingly. He must readjust and transfer to the hinder limb and foot, the muscle which in Man terminates in a single tendon, and concentrates its action on the great toe, and which terminates in the ape in three tendons, which are attached to and flex the three middle toes of his front foot, and is entirely missing in the hinder limb where it must be after the transformation of monkey into Man. The whole poise of his body must be changed, the hair on the body is to be done away with; besides a multitude of other differences that must be adjusted before he becomes a Man.

Is it a probability, much less a possibility, that this unlocated, unknown power, whatever it may be called, selection or whatnot, self-administered, could effect the necessary changes?

Sir Charles Bell, a world-famous anatomist, of England, says: "Man is the only animal that smiles; and this expression is given by a special set of muscles; and I have demonstrated those muscles in Man's

face." Now, for a moment, contemplate the enormous stretch of the imagination that can ascribe to selection, self-administered, or this antiethical law (?), "the struggle for life," which if it be a law at all is not a cosmic law, but a law that looks wholly to the preservation and perpetuation of life and of self, an intelligence that could originate and call into being, locate and functionate a set of muscles in the anatomy of the progeny-to-be of the ape; and which were to give a certain expression to Man's face when he should laugh. Bear in mind that all this is to be done while the future Man is in its primordial form, in the body of the mother orang-utan. Does any sane man, away down in his heart, believe that this law, or any law of nature, can produce the necessary changes and bridge the chasm? It would seem that any man who could believe that, could as easily believe that he can lift himself over the moon by taking hold of his own boot-straps.

Nevertheless, to continue our story, in the Post-Glacial period, in some way, the "ape-like" man is produced. This specimen is said to be the native Australian, and the progenitor of the bushman. He gradually develops into the "speaking man." Then, after a lapse of some thousands of years, in the Recent period (mark that), in some way or other, the *Civili,* the highest type of the genus Homo, came upon the scene.

It will be noticed that, for the first time, there is a change, not of genus, but merely a change of some of the characteristics of the genus; he is still of the genus Homo; the "black-skinned," "woolly-haired" man has brought forth, or has been changed into the "white-skinned," "straight-haired" man.

A brief sketch has now been given of the course of evolution, as claimed by its advocates. Although a mere skeleton synopsis, merely a pointing out of some of the milestones along the way, to punctuate the process of Darwinism *et al.,* yet enough to enable the reader to follow the way. How that, to sum it up in one sentence, a certain quality developing in a few favored representatives of each species or gradation of development, acting in harmony and in conjunction with a so-called law,

which, by the way, Mr. Darwin laid down, took on or acquired the ability to change their type, their genus; took on actually the power of transmutation; were enabled to change their beings, their natures, and their environment. And that they actually did bid farewell to all their old friends and acquaintances—for I doubt not that there are friendships in animal life as well as with men—and stepped boldly out into a new and untried realm of development, at each successive step, until Man was reached. (How came the evolution to stop there?)

From the foregoing it will be seen that, not only is Man an accident, but all organic life, the entire animal world, has been developed by accident. That beautiful and scientifically constructed organ, the eye, came by chance, *i.e.*, from the evolution standpoint. The wonderful perfection of mechanism and adaptability of the human hand were all brought about without architectural intelligence to supervise, or an executive power to enforce, but came simply by chance. The circulatory system, the lungs, the complex brain and nervous systems, with all their special endowments of functional activities, were all the result of blind growth, under the direction of that self-administered law "selection," after life had happened to start up "spontaneously." In short, all the complex organisms, as they exist to-day, came into being by chance, primarily. All resulted from nothing, acting on nothing; this is the legitimate, logical conclusion from their hypothesis.

Scientifically, not another word needs to be written to disprove the evolution theory; and to prove that the production of the species by the theory set up is not only a delusion, but an impossibility; because there is no adequate cause set up. An adequate cause, acting to produce the organism in the animal body, must have at least three qualifications, viz.: First, it must have an intelligence to devise a plan. This contemplates a perfect knowledge of all the circumstances and requirements of the case. Second, a supreme executive power to enforce the execution of the plan. This contemplates a harmonious working along the lines of law, to the extent that

no other power can annul the decree. Third, a will to act; than which nothing in the Universe is more potent. Now, evolution has no such qualifications, since science has declared that, "Evolution is neither a controlling law nor a producing cause, but merely a description of the phenomenal order." Selection, *per se,* has no qualifications at all for such duties as are here laid upon it. Transmutation, in biology, is a myth of no standing whatever.

Science does not support, for one moment, the proposition that anything in this material world came by chance; but all things must have an adequate cause for their being.

But, in spite of all science, a condition confronts us with which we are forced to deal. The animal world is here. How did it come? This is a reality. How can we account for it? Mr. Darwin, *et al.,* say it may have come about by the chance of evolution, and for want of a satisfying answer they have many followers.

CHAPTER II

THE ARGUMENTS UPON WHICH EVOLUTIONISTS BASE THEIR THEORY—ANSWERS TO THE SAME

From a careful study of the question it is concluded that the arguments upon which Evolutionists base their theory, and the arguments to sustain it, may be summed up in the following propositions, viz.:

First. Starting in on the proposition that the simpler forms always precede the complex forms, in the experience of the human mind; they assume that the simpler forms always produce the more complex forms; that the simpler forms of life, therefore, are the progenitors of the next higher forms of development, continuing on through the series.

Second. Because variation is constantly going on in the physical, animal, and vegetable worlds, therefore variation is the chief factor, in the way of excitation, of all the different forms of animal life, working under the guidance of the law (?) of "selection," according to Darwin; "the survival of the fittest," according to Spencer; or, "the struggle for life," of Huxley.

Third. Because the lower animals have all the essential vital organs that Man has, therefore Man must have sprung from the lower animal life.

Fourth. Because the skeleton of Man closely resembles the skeleton of some of the lower animals, therefore Man must look to those lower animals for his progenitor.

Fifth. Because the embryo of the human species closely resembles the embryos of certain of the lower animals, and follows a similar course of development for a time, therefore Man is an outgrowth from those lower forms of animal life; merely an offspring from the lower forms of animal life.

Sixth. That Man has the "ear-marks" of the lower animal life in his body, which must prove that he sprang from those lower forms of animal life, the ear-marks of which he bears.

Though briefly stated, these six propositions contain all the arguments given by the Evolutionist in support of his belief that the progenitor of Man was one of the four kinds of the anthropoid ape. We will consider these propositions in the following chapters:

First. The general proposition that the simpler forms always precede the more complex forms, is perfectly true, as we believe. Especially is this true in the working of the human mind, and so in the experience of the race. But the further proposition that the simpler forms always (?) or even ever produce the more complex forms is, to our mind, not true; it is denied. And especially is this denied in the matter of the production of the animal kingdom, because it involves an impossibility, as we shall show.

In the working of the human brain, the simpler thoughts may be the precursors of more complex thoughts, but they did not cause the thoughts. In the case of the inventor, the simpler machine precedes the more complex machine almost every time. "Out of the wheelbarrow came the four-wheeled carriage," it is said. Now, technically, that is not true at all. The wheelbarrow, *per se,* had nothing whatever to do with the coming of the carriage; but the human mind produced it by reasoning, by analogy. Having seen that the wheel will carry the load, and revolve and thus make headway, if it is balanced, it is reasoned that four wheels, properly placed, will need no balancing, and make the same advance with every turn in unison. Just so in every human experience; but the simpler forms never produce the more complex. They may lead up to the more complex forms, but it is the brain that is led; and the brain that produces, by reasoning, by induction, or analogy. Here is an adequate cause at work to produce an effect. But in the evolutionary scheme there is no cause set up to produce the advancement, only the inherent power stored up in the "fat corn-stalk"; and which is only the vital

principle of that form of life, it has to do with that form of life only—no other. (See Chapter V.) As a matter of fact, we believe the simpler forms of life did precede the more complex forms, not because they were commissioned to build the animal world, but because the earth was not fitted for the more complex forms of life. We deny that the simpler forms produced the more complex forms, any more than the wheelbarrow produced the four-wheeled carriage.

Second. It is assumed that because changes or variations are constantly occurring in the physical, animal, and vegetable worlds, these variations are progressive processes; as if with a definite object in view, and therefore ending when the object had been attained, viz., perfection. There are no limits, no boundary lines in the animal world; that genus is as liable to change as variety; and it being a progressive process, variety is as liable to give birth to a new genus, as a new variety of the same genus. That no animal was ever created by a Creator; but that the whole animal world, including Man, just grew up; was produced and developed by virtue of this progressive variation, from the miniature, parent cell, the moneron, to Man; and that these changes are guided only by the law (?) of "selection," "the survival of the fittest," or "the struggle for life"; whichever form you please, as they are all one and the same thing, they say. Mark you, they nowhere give the cause of the development; the impetus that is to inaugurate and produce the new form, only that it is the tendency in nature to change by advancement towards perfection of structure; a continuation of an inherent power stored up in this miniature life-cell, the moneron. And which inherent property is life. Evolution is the sole cause set up, being guided by selection. That because there are variations in the personalities of animals, and these variations constitute varieties when grouped together, these same varieties may keep on varying and "Thus after diverging in characteristics until a thousand or a million generations have passed, an entire new genus may have been developed." (Darwin.)

From the above quotation, it will be seen that the whole

theory hangs or turns on the word *may*. He does not say that it will produce a new genus; he does not know that it will, but only claims that it may. Now I submit that, for as uncertain and evanescent a thing as a theory, to rest on so indefinite a supposition as the word *may* stands for, places the entire proposition in the doubtful category. Even Darwin claimed no more than a bare possibility for his theory, and inasmuch as it has never been verified, that is the sole basis on which it is now called a branch of civic science. Are we, in the face of all nature to the contrary, as we see it exemplified daily, and as all history has exemplified it in the past, to accept it as having worked out to confirm the uncertain *may* as a reality, when neither Mr. Darwin nor any other naturalist has ever seen it thus work out, or even ever to have had a single scintilla of proof that this *may* had materialized, or ever will materialize? But accept it as truth simply because a few men have, in their metaphysical speculations, suggested that it *may* have done so long years ago, but since which time nature has changed its plans?

Every observant person must be cognizant of the fact that changes are constantly occurring in nature. Variation and change are specialties of nature, but they are not the only specialties in nature. The law of stability comes in, to regulate and limit variation and change to certain boundary lines. "Through all the ages one unceasing purpose runs." So we challenge the proposition that variation is the chief factor in the way of cause, or excitation, of all the different forms of animal life.

It would be a very rigid law of nature that would say: The acorn shall produce an oak exactly like the parent tree from which the acorn fell. The branches shall be exactly the same in number and likeness. The lower limbs just the same distance from the ground, at a certain age of the tree, and the diverging limbs are to be at the same angle from the trunk; that the branches shall point north, south, east or west, just as, perhaps, the limbs on the parent tree did, else it is a new species. That is entirely too rigid, too scientific; nature is not scientific in that way. There are no two oaks exactly alike; but

instead, oaks are of all manner of forms, shapes and sizes, yet all are oaks.

No two human faces are alike, perhaps, in all the 1,750,000,000 inhabitants of this globe; and probably if all who had ever lived on this globe were here now to be scrutinized, no two could be found just alike, but each one different from all the others. An infinite variation, yet all belong to the genus Homo.

There are no two horses exactly alike; all differ from the others in some minor points perhaps, but all are different from the others; yet they are so nearly alike that any one who has never seen a horse, can tell a horse the next time he sees one. They are horses, notwithstanding they have been undergoing changes and variations ever since the creation. Their livers may not be alike anatomically, just like the branches of the oak, but they all have livers that perform the same functions in each individuality. Some may be more perfect in size, shape and functional activity than others.

There can be no dispute over the well established fact that there is constantly going on a variation in the animal and vegetable worlds; and by this variation, new varieties may be produced. But we affirm that after all these variations have taken place, *there are no new genera produced,* by reason of those variations, but that all are true to the genus of their progenitors.

In his "Origin of the Species," Mr. Darwin very plainly describes the process and gives his theory as to the variations; and illustrates by citing the sheep in the animal kingdom, the pigeon in the feathered tribe, and the strawberry in the vegetable world, pointing out the great number of varieties in each genus. He maintains that all these varieties (here he uses the term species) of the pigeon originated from the rock-pigeon, and ascribes to "selection" the cause of the variations. Very probably he is right; I have no discussion on that point, but entirely endorse his doctrine that varieties of any bird, animal or plant may be multiplied *ad infinitum* by selection, care and environment. But, in all the cases cited, the selection was exercised and enforced by the breeder—it was not a self-executing selection. His ar-

gument is long and scientifically minute, but he utterly fails to substantiate his contention; for, be it remembered, when he gets through with his illustrations, all the individualities of all these multiplied varieties, every one of them, are just what they were when he started, viz.: sheep, strawberries, and pigeons; no new genera have been produced. Though he has experimented in raising pigeons for twenty years, and in the time has produced some seventeen varieties, yet they are all of them pigeons, as he affirms. They are all sheep or pigeons or strawberries, just as they were when he began experimenting. There has been neither transition from descent, or transmutation after birth, but all variations have occurred inside of the boundary lines of genus.

Mr. Darwin cites almost innumerable variations of type, which he calls species; but he never cited a case of a new genus having sprung up from ordinary descent. Yet he insists that all species came into existence by ordinary descent, ordinary procreation, and entirely repudiates transmutation. Now, Haeckel, Spencer and Huxley insist on transmutation as a means of forming new genera. Thus they do not agree among themselves as to the means by which the necessary end is reached. Dr. Haeckel and Mr. Spencer both say: "Without progressive heredity and transmutation, our theory of the evolution of the species is not possible."

Mr. Darwin is fully convinced and asserts that, "Every trifling variation that occurs, and especially those variations that are so marked and noticeable as to constitute a species, is at all times for the benefit of the individual." He even holds that extinction of a species or a genus, by his law (?) of selection, or the survival of the fittest, is wholly conservative, because it would give rise to something better, since all organic beings tend to rise in the scale. He says: "It may metaphorically be said that natural selection is daily and hourly scrutinizing, throughout the world, the slightest variations, rejecting those that are bad, preserving and adding up all that are good. Silently and insensibly, whenever and wherever opportunity offers, at the improvement of each organic being

in relation to its organic or unorganic conditions of life."

Now is not that a most remarkable sagacity for a law to exercise? Especially so when the law is formulated by a human being. Just think of it—he is here ascribing to a law, the intelligence of deity! But, if it is true, how comes it that reversion is notoriously common? Has there been a mistake made by this all-potent law (?) of selection, some time in the past generations? Or is it the great law of heredity asserting itself anew? He has just said that all variations are for the benefit of species.

Lamarck was the first to claim an "innate and inevitable tendency towards perfection in all organic beings." It is presumed that he means physical, anatomical perfection. If he does, that point seems to have been reached long, long ago. Now, if there is any such innate tendency in the structure of organic beings, as Lamarck tells about, how comes it that there are new varieties (not new genera) springing up in the domesticated animals, because under domestication selection is enforced by the breeder and therefore variation is very greatly promoted; yet the anatomy is precisely the same as it has been since history began to be written? Leave those improved varieties, which are the result of enforced selection, to themselves for a few years and we see them revert to the original from which they started. Why is it? In the wild state of nature, variation is not a very marked process. The tendency here is infinitely less, if not indeed wholly wanting. It is said by eminent naturalists, of the female mallard duck, that 1,000,000 of them seen together look as nearly alike as 1,000,000 grains of wheat. Their description to-day tallies exactly with the description of them in Egypt five thousand years ago. Again, look at the rock-pigeon, which has been the same since the creation, as far as we know. Mr. Darwin says: "It only began to vary when domesticated," so that, in a state of nature, they may be said to be the same that they were at the time of the creation, or at least since history began to be written. Now, if these two specimens—or, if the one

specimen which Mr. Darwin says only began to vary when domesticated—had withstood all efforts of this all-potent law of selection while in the wild state, and only yielded when domesticated, why should not all stand the same show? All existing under the same laws of nature.

But, how does that comport with Mr. Darwin's admission, when he says: "Looking not at any one time, but at all time, if my theory is true, numberless intermediate varieties, linking closely together all the species of the same group, must assuredly have existed."

If the animal world was ever in such a condition of chaos as to consist of innumerable transitional forms, whence comes the order that now exists in that same world? What influence was brought to bear upon this innumerable throng of transitional forms, to induce or force them to form themselves into well defined genera? Certainly it could not have been "selection," as that is the power which he declares has produced this innumerable throng of transitional forms. How, then, was order brought out of chaos? According to his teaching, the tendency of nature is to produce changes, *i.e.,* varieties, purely for the benefit of the individual. How, then, could that same influence work towards systematizing and classifying its subjects into well defined genera, thus restoring order out of chaos?

But again: According to Mr. Darwin, this chaotic condition should exist to-day, as well as at any time in the past, because he says: "Looking not at any one time, but at all time," etc., numberless intermediate varieties must have existed. Now, in the light of the fact, not theory (please mark that), that the animal world is not to-day in the chaotic condition, but consists of orderly, well marked genera; the absolute absence of any intermediate forms whatsoever; that geology exhibits no traces of such a thing as intermediate or transitional forms, but on the contrary establishes the fact that well marked genera existed as far back as the Cambrian period, as much so as now; it is plain, indeed it necessarily follows, that his admission annihilates his theory of evolution, and establishes by his own words the fact

that *his theory is not true.* It further demonstrates the fact that the boundary lines of genus have always existed since the creation. Thus far and no farther, says the law of stability. It seems evident that the Creator did not intend that there should be that chaotic condition in the animal world; and that is the probable reason why the different genera will not breed when put together; they are not fertile with each other. You may outrage nature, but you cannot profit by the outrage. This matter of mixing or amalgamating the genera has been tried over and over again, times almost without number, under the most favorable circumstances that the great ingenuity of man could invent and control, and it has never been accomplished. There can be no *forced* amalgamation of the genera even; and, in a state of nature, it is an unheard of procedure for different genera to unite for procreation.

Mr. Darwin practically ignores the classifications of the zoologist of to-day, and seeks to do away with the term genera. He says: "I look at the term species as one arbitrarily given for the sake of convenience to a set of individuals closely resembling each other. It does not essentially differ from the term variety. The term species thus comes to be a mere useless abstraction. No observer can determine for another, even if he can do so for himself, which of these forms ought to be called species and which varieties." Here he uses the term species in place of the term genera. To demonstrate the difficulties and uncertainties of classification, he cites the following, which rather goes to show that zoology and botany are more fads than sciences: "Mr. Watson has marked for me 182 British plants which are generally considered as varieties, but which have all been marked by botanists as species. Mr. Babington gives 251 species, whereas Mr. Bentham gives only 112; a difference of 139 in the same individuals."

These illustrations seem to show, as far as they go, that the classification of species is a mere matter of opinion. Nevertheless, the term species has been substituted for genera by Mr. Darwin; or, as Grover Cleveland would say, the term genus has been retired into "in-

nocuous desuetude," and the more flexible and ambiguous term species used in place. I am persuaded there is good reason for that procedure on Mr. Darwin's part. For instance, if the theory of evolution be true, there could be no such thing as genus; but instead the world would be full of those transitional forms he has been telling us about. Of course, if such were the case, there could be no such thing as a well defined genus in the animal kingdom, but all would be relatives, consisting of fine gradations of varieties of the same blood or stock. Mr. Darwin acknowledges that the term species is such an ambiguous term that it may be used to mean anything from genus down to variety, and is used by different writers to designate genus in one place, and variety in another. There are numerous places, in his "Origin of the Species," where that has to be done, in order to be intelligible. As an example, take the "Origin of the Species." Any one who takes the pains to read that work carefully, will see that in the term species, he means every creature that has existed on this earth, living or dead, from the earliest dawn to the present time; totally ignoring genus in all cases, because, from the evolutionary standpoint, all are blood-relatives. That is logical on his part, however absurd it actually is, when looking at the facts of biology. What possible use could the term genus be to such an idea, or theory?

Now is it true that all flesh is one? That all animal life is of one blood? Holy Writ says: "But God giveth it a body as it hath pleased him, and to every seed his own body. All flesh is not the same flesh; but there is one kind of flesh of men, another flesh of beasts, another of fishes, and another of birds." Do not your eyes and senses confirm and verify the exact truth of this quotation? Surely they do. It seems very plain that there is a great difference in the flesh of the ox and the flesh of the bird; a great contrast in the muscular structure of the bird and the fish. Think of the muscular structure of a fish being changed to that of a bird, and then again, from that of a bird on through numerous gradations, to that of a man, simply by virtue of the law (?) of selection being brought to bear on the mother

fish, while the ovum was being constructed in nature's own workshop. A most wonderful sagacity for a fatherless, homeless, unlocated, undirected law to exercise. Perhaps I had better have said "exorcise."

But let us see how physiology considers this exorcism —see how it is outraged by such a doctrine.

It is Mr. Darwin's claim that man came up through the mollusks, ganoids, amphibians, reptiles and birds. Now, all mammalia and birds have red, warm blood; whereas, all reptiles, amphibians and fishes have cold blood; so that it would be anatomically, physiologically and chemically impossible (under ordinary circumstances) that a warm-blooded progeny should spring from a cold-blooded ancestry; to say nothing of genus. The red blood corpuscles of all mammalia have no nucleus, whereas the red blood corpuscles in all other vertebrates, as birds, reptiles, amphibians and fish, have a nucleus. The red blood disc in man is different from that of any animal, and characteristic. The red blood disc varies in shape and size in every species, being much larger in all birds, reptiles, amphibians and fish. The bones in all mammalia have cavities filled with marrow, while the bird has air-cells in its bones, to impart lightness to them. Some of the vertebrates have neither allantois or amnion, while others have both. Now here is a new method introduced in the middle of a series of vertebrates. Do you think selection had anything to do with it? Some of the vertebrata perform the act of respiration, technically, by means of water—they cannot breathe air—while others cannot respire water at all, but must have air; one set have gills, while the other set have lungs. The glands of the skin of the bird grow feathers; the glands of the skin of the sheep grow wool; the glands of the skin of the dog grow hair. Surely it would be a miraculous intervention to change the function of the glands that had been endowed with the function of growing hair, to that of growing wool or feathers, or vice versa. The bird, covered with feathers, and whose progeny are brought forth by incubation, changed to, or changing itself into a mammal whose skin grows hair, and whose progeny are brought forth by gestation; and

all this phantasmagoric show is brought about by virtue of an influence being brought to bear upon the mother, while the primordial form is yet in embryo; by what power? Why, by the wonderful power of "selection," or bodily transmuting it, after birth, into another genus, because of its having survived longer in the struggle for life than some others of its kind that were incubated in the same brood. All this is to be done without an impetus of any kind; without a spark of intelligence, only selection, self-administered, and evolution does the rest. Does it not require a wide stretch of the imagination to believe such veritable nonsense as that? And yet by some it is called science.

Please bear in mind, reader, that this law (?) does not act with anything like regularity. All subjects are not treated alike, by any means, for it is only claimed that occasionally this power is exercised; only on a few favored ones among the great numbers contesting successfully in the life-struggle. Does natural law have any favorites? If selection is really a law of nature, will it not affect all subjects alike under like circumstances? Could anything but a supernatural intervention prevent it from affecting every individuality amenable to it exactly alike?

Let us make that matter plain and clear. When the first living cell, or family of cells, the monera, was in some way or other, not yet explained by the law (?), brought forth a living creature or creatures, they must have been endowed with that potentiality, that power requisite to advance itself, in each successive generation, until Man was reached. That is to say, the image of Man must have been stamped, as it were, upon each cell; and likewise with each successive generation until Man was reached. Then all in each generation would have advanced alike, because a law treats all its subjects amenable to that law alike. If such were the case, there would not be anything but the genus Homo on this earth to-day; but they did not all make the same advance toward Man; they kept stopping off at different stations along the line, and thus formed all the different species of animals in the world. There must have been

a freak of nature, or it could not have come out that way. As an explanation of this extraordinary freak of nature, it is claimed that this potentiality was only conferred on a few favored ones, representatives of each species, by this law of selection, or the survival of the fittest, otherwise none would have advanced. So that it was only the exceptional action of the law that gave us, as well as all other animals, our existence. Is not that a brilliant explanation of nature? Am I not justified in saying Man is an accident, if Darwinian evolution is true? But again: This silly explanation of nature involves another serious consideration; it recognizes an impossible condition, at least so thought, viz., that matter is endowed with intelligence. Is that not *reductio ad absurdum?*

There is a great perplexity in my mind to this effect: Since, according to Darwinism, all animal life is due to evolution, via one common stream, why did the process stop short when Man was reached? Did it cease because it had reached a perfect accident?

The theory of evolution was originated—was evolved and promulgated on purpose to get rid of the miraculous in the creation of the animal world and the immutability of the genera. It was put forth as a means to do away with the necessity of a miracle of creation, in the production of each kind of animal. Mr. Darwin says so himself: "I had just two objects in view when I wrote this book, viz., to controvert the dogma of separate creations; and to substantiate my theory." That very sentiment is the life of the evolutionary theory to-day. It has no other reason for acceptance. The reasoning is a dismal failure when examined closely. The theory of evolution invokes and involves a miracle at every turn to reconcile its absurdities; but the whole scheme is a deception and a fraud, as we have seen and shall further see.

There is a power, silently invoked by the evolutionist, to work and complete his chain at every link. It matters little, it makes no difference what you call that power; it must be there or the chain will not be completed; no, not even be begun. There are some people

who cannot see the necessity of such a power, or, if they do, ostensibly deride and ignore it. This is where the philosophers (?) prefer to crib causation by hair-breadths, rather than take it in a bolus of creation of each species.

Would it be any more of a miracle for the Great Architect to create Man in an instant of time directly, than to spend one hundred million of years to accomplish the same object by evolution, even if evolution were possible, involving a thousand miracles in the process?

Martineau says on this point: "They manifestly want the same causality, whether concentrated in a moment or distributed through incalculable ages; only in drawing upon it, a logical theft is more easily committed piece-meal than wholesale. The argument is a mere appeal to an incompetency in the human imagination, in virtue of which magnitudes evading conception are treated as out of existence; and an aggregate of inappreciable increments is simultaneously equated—in its cause to nothing—in its effect to the whole of things. Surely it is a mean device for a philosopher thus to crib causation by hair-breadths, to put it out at compound interest through all time, and then disown the debt."

Yes, I have heard men say that they did not believe in miracles; that there never was a miracle performed. Now such an one must be very wise. He never saw anything that excited his wonder, surprise or astonishment. Will such an one just please explain himself? Or I will give him a simpler problem. Just explain oxygen or hydrogen; and tell us why it is that these two gases, chemically united in proper equivalents, will give us, as a result, water? To me, the world is full of miracles. Every manifestation of life is a miracle. Every tree and every blade of grass are miracles. The world itself is the sum total of all the miraculous. Can you find anything in nature that you can explain *ab initio?*

Man is a miracle; he cannot be accounted for on any other basis. It is entirely inadequate to say Man came by evolution from the lower animal life, because there is no causation; evolution, *per se,* is neither a controlling

law, nor a producing cause, but simply a description of the phenomenal order.

This law of "selection" is a very peculiar power. You will observe that it is a "something" without beginning or without an ending. It is not executed by any executive power, but is entirely self-executing. It is not guided by any intelligence, outside of itself. Yet it apparently originates ideas, and puts them into execution. It even divines when and where an improvement can be made in the structure and construction of the animal body, especially when the structure is soon to be used for a different purpose than that heretofore used, and proceeds to perfect the structure for its future use. It is capable of even converting the swim-bladder of the fish into a minute and perfect lung structure. It stretches out the giraffe's neck so that it can browse off of the higher branches of the trees in case of drought and a consequent failure of grass, thus showing its decided partiality to this animal over all other animals in Africa. Indeed, it seems to be the great I am. Mr. Darwin says it is a law of nature. But are not these unusual and wonderful attributes to ascribe to a law? A law has no intelligence in itself, but expresses the intelligence of the maker of the law; and it is to be enforced by the executive power of the state; it is not self-executing. A law applies to all its subjects alike; it has no volition to make a choice; it shows no partiality to its subjects, but the executive power whose duty it is to enforce the law may show partiality. This is the personality or power, if you please, which they strenuously ignore.

The word "selection" can be understood when it is used in the sense of its etymological meaning; as, for instance, a breeder selects or exercises selection in the choice of the stock he is to breed from, *i.e.,* he chooses that which he wishes to; but when you enlarge its meaning and, in so doing, deify the word as a law of nature, ascribing to it infinite and miraculous powers of intelligence, volition with the ability to enforce its will, as is done in this case, I submit that you have gone beyond the confines of reason; that you have set up an idol—a false god to worship in the place of the true

God—because you have ascribed to this idol the attributes of the Deity.

The phrase, "the struggle for life," is easily understood as it applies to the individuality from its birth to its death. This is no occult, mysterious, unseen power, but a reality. Right here is the reason why Haeckel, Huxley and Spencer invoke the power of transmutation. They simply transfer their occultism to another phase of the same transaction. They recognize the necessity of having a mystic power included in their modus, or their theory is exploded; they are very particular not to emphasize it, however, but put all stress on the reality by boldly claiming the result, as exemplified by the animal world. Examine Mr. Huxley's position, as described by Mr. Henry Drummond: "Mr. Huxley will make no compromise. The struggle for life to him is a portentous fact, unmitigated and unexplained. No metaphors are strong enough to describe the implacability of its sway. The moral indifference of nature everywhere stares him in the face. For his successful progress as far as the average state, Man has been largely indebted to those qualities which he shares with the ape and the tiger. That stage reached, for thousands and thousands of years, before the origin of the oldest civilizations, men were savages of a very low type. They strove with their enemies and their competitors; they preyed upon things weaker or less cunning than themselves; they were born, multiplied without stint, and died, for thousands of generations, alongside of the mammoth, the urus, the lion, and the hyena, whose lives were spent in the same way; and they were no more to be praised or blamed on moral grounds, than their less erect and more hairy compatriots. Life was a continual free fight, and, beyond the limited and temporary relations of the family, the Hobesian war of each against all was the normal state of existence. The human species, like others, plashed and floundered amid the general stream of evolution, keeping its head above water as best it might, and thinking neither of whence nor whither."

I find no such declaration in Mr. Huxley's writings;

so, I suppose, we will have to give Mr. Drummond the credit for putting those words into Mr. Huxley's mouth. However, that is a most graphic description, perhaps, of the struggle for life in the early history of the human race. But even if the statement were actually true, with no exaggerations, there are no arguments in it to substantiate the doctrine of "transmutation," or the doctrine of "the evolution of the species," by descent. He is here boldly claiming the results, long after the initiative of the origin of the entire animal kingdom. He is merely giving a fancy pen picture as his idea of existing conditions, but which history, both sacred and profane, disproves.

Let us see what Mr. Darwin means by "nature," of which "selection" is the representative god. He says: "I mean by nature, only the aggregate action and product of many natural laws; and by laws, the sequence of events as ascertained by us." If that is all there is to nature, how in the world can he ascribe, logically, to *one* of those laws the infinite intelligence and power that he does to selection—granting for the time being that selection is a law of nature?

From that interpretation and definition of nature, how can there be any intelligence manifested in a law, since there is absolutely nothing to start with? The sequence of events as ascertained by us is the only tangible entity contained in the aphoristic definition; and of course that is witnessed after the action of the law is completed, and is therefore not a part of the law, but the effect of the law's action. There is no place, then, for such a supervising intelligence as he talks about, to manifest itself in his idol.

Mr. Mivart, in a series of objections to the powers ascribed to "natural selection" by Mr. Darwin, held that "Natural selection is incompetent to account for the incipient stages of useful structures." Because he doubted the ability of selection to affect the embryonic form through the mother; or, if not through the mother, then the embryonic form direct.

Now if Mr. Mivart is right, which he certainly is, how could natural selection change an invertebrate into

a vertebrate? For this transition must have taken place in the incipient stages of its existence, since Mr. Darwin affirms that, "All changes come by ordinary procreation." Or if it occurred under Dr. Haeckel's, Mr. Spencer's or Mr. Huxley's scheme of transmutation, which plainly means that the change, the mutation from one form into that of another form, takes place after the birth, some time during the life of the individuality; how could the survival of the fittest so influence the structure of the individuality? For instance: The theory of transmutation would have a tired dog lie down to rest and get up a roaring lion. Or the family horse, while pursuing the even tenor of his way, would become suddenly transmuted into a giraffe, with all the spots in place, and he browsing off of the tops of the trees along the road. According to Mr. Huxley, then, the amphioxis was a boneless bundle of primary muscle at its birth, and some time during its life, from some unknown and mystic power, it was suddenly transmuted into a vertebrate being, not quite perfect, perhaps, but reasonably so; and, in turn, this imperfect vertebrate became the progenitor of all the vertebrates. Now, that is an illustration of the origin of the species from a human standpoint, and the absurdity of it is only equaled by the audacity of the author.

But that is entirely too sudden for Mr. Darwin; he says the change of species is by ordinary descent, and that it is a very slow process, involving from a thousand to a million generations, which would mean from 33,000 to 33,000,000 years. And, according to his tell, it is really a very uncertain process, for he says: "Here is a genus composed of six, eight or ten species; now, not all of these species is granted the favor of being the progenitor of some new and improved species, and therefore to be blessed or cursed, as it were, by a future representation in the long ages to come, but the great majority of those six, eight or ten species will become extinct and perhaps only one or two individualities of perhaps only one species, through selection having picked out the individualities, give birth to an advanced form, and from this favoritism of nature or natural selection,

by virtue of its being an improved edition, it will outstrip and eclipse all the other members of the six, eight or ten species, to the extent that all will become extinct save the progeny of this one favored one, and this will then constitute a new genus." From this epitome of evolution from Darwin's own hand, it will be clearly seen that it depends wholly on chance for the new edition, the new genus; and the impression made upon the embryonic form by selection, what the new edition will be. And so this natural law (?), "selection," has failed to act in all other instances but possibly the one in the six, eight or ten species, allowing all the rest to become extinct, and only preserving one out of possibly thousands in number. How is that for the action of a law of nature? It would seem from this illustration that the wants of nature make a deep impression on the primordial form, *i.e.*, they did in the past eons of time, but for some unaccountable reason do not now have any influence whatsoever on the embryonic form. The embryonic form, nowadays, is just exactly what the two sexual elements uniting make it to be. The wants of nature cut no figure as to what the progeny will be.

Of course all variations are prescribed, by this unknown power, for the benefit of the species, according to this doctrine, *i.e.*, this unknown power and intelligence, brought into being away back at the birth of the monera, and continued along through untold generations and innumerable variations, divining what was necessary in the progeny in order to have it meet the requirements of the law of "the survival of the fittest"—this power picked out one among ten thousand or ten million individualities, and impressed the primordial form to the extent of producing from an invertebrate, a vertebrate progeny; which in turn became the progenitor of all the vertebrates following, of whatsoever form. Would not such a procedure require the total suspension of the law of heredity, to make it successful? I do not for one moment think that any one will question the assertion that what we call heredity is indeed a law of nature. And does anybody believe that nature is so fickle that it will allow its laws, any of them, to be sus-

pended so easily as to yield to the caprice of a metaphysical philosopher, in order that he shall substantiate his theory?

By this time we will have observed that there are several ideas or notions as to how and when the evolution takes place, but there are still others. For instance, take Mr. Spencer's idea as to the why and the wherefore of evolution, primarily. Although Mr. Spencer is so abstrusely technical, even recondite in his ideas, as to be difficult of understanding, if not indeed unintelligible to the ordinary individual, we will try him: "Organic evolution, in general, commenced with homogeneous matter, just as the evolution of individual organisms commences. . . . Matter had a supernatural, indwelling tendency to develop imposed upon it in the beginning." Lamarck said that "all organic changes tend to perfection." As the natural tendency of all evolution is perfection, the change and progressive development advanced until it reached perfection in Man. Such must be the inference. So that, as Spencer says: "The passage from an incoherent, indefinite homogeneity to a coherent, definite heterogeneity" is typical of the evolution of the species. Thus, in this pedantic statement, we see his idea of the causes operating to produce the evolution, viz., the indwelling supernatural tendency to develop, resident in homogeneous matter. This would-be cause occupies the same position, relatively, in Spencer's theory of evolution, that selection does in Darwin's theory.

If we consider Mr. Spencer's definition of life in this connection, viz., "Life is the definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external co-existence and sequences," we may see what he had in mind when he wrote: "The passage from an incoherent, indefinite homogeneity to a coherent, definite, heterogeneity"; viz., the changes of incoherent, indefinite, homogeneous protoplasm into definite, coherent, heterogeneous organisms, by the inevitable change which must come to all such matter, because of the inherent, supernatural tendency to develop stored up in it. This is virtually claiming that

this incoherent, homogeneous substance, supposed to be protoplasm, makes the changes *in* and *of itself*, from its own inherent impetus. That is "spontaneous" generation. Dr. Haeckel calls it "spontaneous creation," which Mr. Huxley says is an impossibility. Does protoplasm have any such properties? Is it not rather only the inert material out of which living structures are made? Only the brick out of which the wall is built, not by itself, but by the builder, and at which point it becomes vitalized?

If we read between the lines, this is where and when Mr. Spencer accounts for the phenomena of life, and it is the only reason why he makes use of the word "supernatural"—to put the mystic element into the transaction; as we have reason to believe that he knew that protoplasm has no disposition, *per se*, to that inevitable change which he ascribes to it, viz., development.

This alleged inherent power stored up in matter is not the only cause of the modification of animal organisms which evolutionists advocate. Lamarck says, and Spencer endorses the saying, that "animals have the capacity for being modified by processes which their own desires initiate." They both say: "From their first rudiment or primordium to the termination of their lives, all animals undergo perpetual transformations, which are in part produced by their own exertions, in consequence of their desires and aversions, of their pleasures and their pains, or irritations, or associations; and many of these acquired forms or properties are transmitted to their posterity." Did you, dear reader, know that your mere desire would enable you to grow another finger, or, if perchance you had an aversion to four fingers, that you could reduce the number to three or two fingers by simply desiring it?

Just here a quotation from Von Baer, an evolutionist of great proportions, caps the climax of absurdity: "A fish, swimming towards the shore, desires to take a walk, but finds his fins useless. They diminish in breadth for want of use (because he has landed on dry land) and at the same time elongate (because of his desire). This goes on with children and grandchildren for a few mil-

lion years, and at last who can be astonished that the fins become feet? It is still more natural that the fish in the meadow, finding no water, should gape after air, thereby, in a like period of time, develop lungs." Could anybody but a thoroughgoing evolutionist give utterance to such nonsense, and not be laughed to scorn? We all know that a fish taken out of water will die in a few minutes, as a rule; though there is one species of fish inhabiting the rivers of India, the *Anabas scandens*, which, by a peculiar conformation of the pharynx, consisting of pockets, which are filled with water all the time while in the water, is thus enabled to maintain life when out of water for a limited time; and while in the agony of asphyxiation, because they cannot respire air, they have been known to wriggle their bodies to some distance by the use of the long and sharp spines in the lower edge of their fins. But they can only maintain life for a limited time, while they can keep their gills moist, by means of this limited supply of water. This is the only variety of fish that has even this limited ability to "take a walk" on dry land. For a moment, consider the absurdity. The argument makes the fish to reason, and to have a desire or an aversion. Then, too, it asserts that from its desire its fins are changed into feet. To desire is to give a definite mental expression to an emotion, which is the result of having a distinct mental image, to be recognized by the consciousness. Have fish such mental capacity? The utter absurdity must be too apparent to even the dullest mind. That such trash should arrest the attention of the great reading public is beyond comprehension; but that such an absurdity should find endorsement by educated men is almost beyond belief.

"Which of you by taking thought can add one cubit to his stature?" Even if the fish could have a desire, or an aversion, could it thereby change one scale on its body? We know that man is capable of having a mental image stamped upon his consciousness, can have strong desires and aversions; we also know that though he may repeat the desires throughout a lifetime, he is utterly unable to modify, even to the slightest degree,

any part of his physical structure. "Can a leopard change its spots?"

Surely Dr. E. Ray Lankester is right when he says, in his latest Oxford lecture: "Anything more preposterous than the theory of evolution, disseminated in works of contemporary men of letters, including novelists and poets, can scarcely be imagined."

It is to be presumed that he means such as the following, which are among Mr. Spencer's proofs of evolution doctrine: Because provincialisms are common to all languages, it is proof of evolutionism, so held. Because there are divergences of structure between the English and allied modern languages, and some unlikenesses of idiom, he holds it to be a higher specialization, thus distinguishing one language from another, just as a higher specialization in some form of organic life is a higher specialization than the other forms of the same family, and thereby a new variety is formed. Because it is now conceded that all the different tongues have a fundamental community of organization, it is proof that there has been an evolution in language; and that this evolution in language is similar to the evolution of the species. He is simply throwing dirt in the eyes of the non-critical reader. Every man knows there can be no similarity between the evolution of language and the evolution of the species. One is the expression of a physical entity, while the other is the physical entity itself.

It might just as well be held that because there is a difference between the chirp of a robin and the cackle of a hen, it is proof of the theory of evolution; and because the cackle of the hen is more prolix than the chirp of the robin, it is positive proof that there could not have been a special creation in either case.

As near as we can get to the style of the Sage of Derby, we should say the different theories of evolution when grouped together consist of a conglomerate mass of incoherent, baseless opinions, a heterogeneous heterogeneity of metaphysical vaporings.

Some evolutionists talk of "a few favored ones, successful ones, shooting ahead of their fellows, and then, having them physiologically shut off from their kind,"

i.e., made into something else, they say: "Progress can only be made by one or two individuals shooting ahead of their fellows, and their life-gain can only be conserved by being shut off from their species, or their species shut off from them." In this way they attempt to account for the genera, as they now exist. The proposition then is, in order to give evolution a chance, either to carry off those improved editions into physiological isolation, that is the new genus; or to remove the unimproved editions by wholesale death—extinction. Which will it be? Mark you, Mr. Darwin has formerly held for "the multitude of intermediate, transitional forms that must exist if my theory is true"; but in this illustration which he gives, he calls for extinction of the rest of the six, eight or ten species remaining. What would the rest of the six, eight or ten species, numbering at least as many thousands if not as many millions of individualities, be doing all this time? Is it probable, is it possible for this one or two specimens to outdo all of them? Could one or two forward representatives, "shooting ahead of their fellows," outlive all the rest of the six, eight or ten species, they all becoming extinct, thus leaving only the "new genus" the whole field? But if it were a possibility, where would this innumerable throng of intermediate forms come in, which he urges the necessity for? Is it not a plain proposition that the one or two smart specimens, shooting ahead of their fellows, could not under any circumstances, without miraculous intervention, outlive the other thousands if not millions of the six, eight or ten species from which they sprang? With their advantages of prestige and natural increase added yearly, if not oftener? If they did outlive all the rest, as predicted, there would not be anything but the higher forms of life after a time, say when Man is reached; he would be the only representative of animal life. For, bear in mind, this is not the exception he is illustrating, but the rule; and so it must occur between each gradation of genera. In either case he is undone, as we have all gradations of life right here now, and none of the intermediate forms of life at all.

Take either horn of the dilemma you choose, and the fallacy of the baseless theory is proven.

"If it could be demonstrated that any complex organ existed, which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down," writes Darwin. He knew full well, when he wrote that challenge, that no man could prove the converse of that proposition, because Man has no jurisdiction over life. He cannot, by any means, institute experiments to prove it; he knows absolutely nothing of the simplest elements of life. Again, Mr. Darwin seeks to put the onus on his opponents by challenging them to prove a negative, contrary to all laws of logical arguments. But he is begging the whole question by assuming that nature works along those lines in the formation of complex organs. He cannot prove that any organ was ever made in that way. He has not one scintilla of proof that such a thing was ever done; he simply assumes it. Mr. Mivart's objection to selection, quoted above, as being an inadequate cause, is most pertinent here. What would give the initiative impetus? Is it the wants of nature, merely, that is to initiate a new organ? Why, nature wants nothing; it is Mr. Darwin alone that is wanting something different from what he has, to substantiate his theory. He is building a new organism as a machine, and must have a new organ, to be used for an entirely different purpose from what it is now used; and he is going to make over an old organ into a new one, with an entirely new function and new construction—in fact, a new organ. Now what is going to initiate it? The principle of "use and disuse" cannot enter into the question at all, as yet, because even the initiative act has not yet been taken, and the new creature could not use an organ until it had one to use.

As a notable example of this fabulous claim, he assumes that the swim-bladder of the fish was transformed into the lung, when the fish became a bird, after going through the reptile stages of innumerable forms. This proposition is just as reasonable as the one made above. Of course, considering the fact that there must have

been numerous, successive, slight modifications; there must have been numerous, intermediate, transitional forms—a multitude of forms undergoing the modifications, grading in all shades from fish to bird. Where are they? Science, geology and all history say there never was such intermediate, transitional forms of life on this earth.

Now, kind reader, you who do not believe in miracles; you who eschew the miraculous altogether, and cling only to the scientific in this life, please follow the actor, Charles Darwin, while he performs the wonderful feat of transforming a fish into a bird. You probably will never have the chance to witness such a feat again. He accomplishes the act by numerous, successive, slight modifications of the original fish. He makes a new specimen complete at every step in the process. Watch the different, fantastic forms as they come from his hands. He is the only man who has ever accomplished this wonderful feat in this manner. He is going to make the skin that now grows scales to grow feathers. He is going to grow wings and legs where now there is not a sign of them. It is an extremely slow process, so please watch him closely and do not let him fool you by any sleight-of-hand.

(*Enter Darwin.*)

"My dear friends, ladies and gentlemen: I am about to demonstrate before your eyes, what constitutes one step in the evolution of the species. I have chosen this particular case because it is a very interesting one, and I may say that it is a test of the theory of evolution. If I succeed in my object, I shall have demonstrated that evolution is the only scientific way in which to account for all the different forms of life on this earth. I now propose to change the fish into a bird, to make over the swim-bladder of the fish into the lung of the bird, and make the skin to grow feathers that now grows scales. I propose to construct legs, feet and wings, where now there are none. All this I do by virtue of the powerful law of 'selection,' by numerous, successive, slight modifications of the original fish.

"The first thing that confronts me is the fact that the fish has a swim-bladder and no lungs. And the bird, which I will proceed to make by numerous, successive, slight modifications of the fish, must have lungs and no swim-bladder. The reason I do this is that whereas a fish cannot get along very well without a swim-bladder, he has one; and as the bird which I now propose to make will have no use for a swim-bladder, but instead thereof, he must have lungs, I will kindly furnish it with the lungs. Now this I do by simply converting the swim-bladder of the fish into the lungs of the bird. Of course the bird has two lungs, and the fish has but one swim-bladder; but that fact will make very little difference, as I will just cut the swim-bladder in two, and then it will be all right. However, my friends, we cannot do this all at once, as I have concluded to do this by numerous, successive, slight modifications of the whole carcass of the fish. You will hardly be able to discover the differences at first, but soon you will behold some curious creatures, as there will be innumerable, transitional forms of fine gradations all the way from fish to bird. Now for the first.

"Presto! Here we have the first modification of a fish in the direction of a bird. As I have said before, you cannot discover the difference between this one and its progenitor, without close scrutiny. I have, though, divided the swim-bladder into two cavities by a middle partition, which you cannot see, and made the body a little shorter, the scales a little shorter and softer also. Hereafter I shall only announce the changes at intervals.

"Presto! I see that 'selection' is working finely, notwithstanding I cannot tell when, where or how it is working; but as it is rather a slow process, we shall have to have patience.

"Presto! Here is a specimen that is about 99-100 fish and 1-100 bird. By 'selection' I have now divided the swim-bladder into numerous apartments, and marked a spot for the wind-pipe to bud from. You will observe that the scales are very small, soft and few in number. The body is very much shorter; the tail is also changing

its shape; it is commencing to grow flatter horizontally than vertically. I have now decided to have the wings take the place of the forward fins on the sides; and the legs, I think, I shall have spring from the hinder fins.

"Presto! Here is a specimen that is 75-100 fish and 25-100 bird. In this specimen, please notice that the scales are all gone; the skin is a little irritable, there are several sores here and there, but that will be all right when it gets to be a bird. The irritability is caused by the loss of the scales, which were a protection to the skin while the fish was in the water. The body is very much shorter, in proportion to its size; it is more round, and the breast-bone—which, by the way, I have just inserted—is doing nicely. The neck is beginning to show up. The legs and wings have grown considerably, notwithstanding it has no use for them while in the water, in the capacity of a fish; but it is the future bird that we are looking to, and therefore no business of the fish. The gills, you will notice, are closing up as the neck lengthens. I see that the wind-pipe, technically called the trachea, is about an inch long, and there are blood-vessels beginning to push out into the partitions of the swim-bladder. I have also extended the nerves into this new structure. We are making fine progress, but I really cannot imagine what will ever become of all these intermediate forms; they seem so helpless.

"Presto! Now here is quite a curious specimen. I see that the swim-bladder is so changed that it is practically useless for a fish; and not yet far enough advanced to be of any use for the bird; so that it cannot stay in the water, neither can it stay out of the water, because it cannot swim when in the water, and it cannot breathe the air when out of the water. But he will learn that he has got to abide his environment. The gills are about closed up. I have closed up its mouth somewhat, also, and am just beginning to form the beak. You will observe that the wind-pipe is growing nicely. I will soon form what is technically called the larynx. I have already adjusted the tongue. The legs are now about an inch long; but they are of no use to the specimen, because they are just stubs as yet, and they are sore

on the ends from its trying to use them in walking. We will have to keep him more quiet. The wings are developed to the end of the first joint, but as yet they are just clubs, with which he is trying to crawl, to save his sore stubs of legs. The skin is in a little more healthy condition, since it cannot go into the water, and is covered with soft hair or down, more or less. It is a hideous-looking creature, and somewhat resembles a reptile, though I cannot classify it. But it is 50-100 fish and 50-100 bird.

"Presto! My friends, I have had great trouble in keeping the life in the immediate progenitor of this 'species'; but by careful nursing I have succeeded in producing this new specimen; it is about 75-100 bird and 25-100 fish. The great trouble was this: It being half fish and half bird, the fish nature insisted on spawning, and the bird nature insisted on incubating its progeny. However, one happy thing decided the case. 'Selection' decided that, inasmuch as it could not swim, it could not spawn; and so it had to incubate; but what a time I had of it to 'break it in.' I really thought, at one time, I would have to do as my friend Dr. Haeckel does sometimes, to interpolate a suitable specimen. You will observe that the beak is almost complete; it cannot close its mouth perfectly, because the lungs are not yet quite finished off, and I forgot to make a nasal cavity for the air to be respired through; but I will take that up right away. The trachea is now complete; all but the rings to hold it open, and so it gives me some trouble by its collapsing, when I have to run a bougie down its throat or blow vigorously into its mouth to make it breathe. The wings are as long as I am going to make them, but I have not yet put the bones in the last half; I think I shall have two bones there, as I expect to keep right on at this business until I make a man, and I know I shall want two bones in a man's arms. The legs are complete, all but the toes. I think I shall have four toes, three in front and one behind, opposing, so that it can sit on a limb. The feathers are beginning to show up in great shape. I declare, however, it is a very helpless creature; I am at my wit's end to know how to

keep it alive. It will not eat anything but worms, its throat seems so tender; so I have the boys bring me worms every day for it to eat. It cannot fly, but it keeps its wings flapping and its tail wiggling. It is a very restless creature; I would not know what to call it. But we shall soon be through now.

"Presto! Do you recognize this blackbird? You see that he sits on the limb erect. His toes are perfect, all but the nails. His wings are perfect, save the feathers in the last joint. His head is a little large yet, but that is a good fault for a young species. You see that he keeps his mouth shut now most of the time, but the nasal cavity does not just suit me yet; I am getting out a new shape for the turbinated bones. His eyes I have protected by a little membrane that I think he will find handy to sweep across the eye to brush off the dust; it is technically called the nictitating membrane. He still wiggles his tail too much; but when I get the long feathers in place, he will be all right. This specimen is 99-100 bird and 1-100 fish. Like the first specimen I showed you, you could hardly tell that from the fish, this one you can hardly tell from a bird. He hasn't learned to eat seeds yet, but he can eat corn-meal, all right. I have to gather worms for him yet. When he gets so that he can hop and fly I shall let him take care of himself, but he could not do it now.

"Presto! I asked you if you recognized the last specimen I showed you as a blackbird? I thought it was a blackbird at the time, but I see, since he is perfectly developed, that it is a crow. Do you not hear him 'kaw, kaw, kaw'? Is not his plumage a beautiful green-black? You will see that he holds his tail in good taste, since the long feathers have been inserted. He can fly with ease, and delights in sitting on the topmost branches of the trees. He hunts worms diligently, and likes to pull up the green corn, just after it comes through the ground. He is very shy of mankind.

"Now, ladies and gentlemen, you see that I have kept my word. Out of the fish I have produced a bird. It has been a little tedious, and I have had to stay up nights, or lie awake nights, to think how to provide food for

those hosts of intermediate, transitional forms. You will recall that I only displayed some six or seven specimens to you, but those were only a very small or fractional part of them, as compared to the great numbers of transitional forms which I did not exhibit, because the differences were so slight that I thought not to tire you with all the multitude of queer and fantastic forms. I thank you for your attention."

(*Exit Darwin.*)

Profound silence was observed for a time by all present, as if awestricken at the conclusion of Mr. Darwin's triumphantly successful demonstration. Presently a tall, slim man of mature years arose and said: "My dear friends, I have been closely watching the career of this great actor, Charles Darwin, for many years. I think he has done noble work for evolution. I am more firmly convinced than ever before that the great principle of evolution is a glorious truth. I am convinced that this principle will account for all the different forms of life now on this earth. But there is just one thing that is now bothering me, and that has bothered me in the past, in the working out of Mr. Darwin's theory; and that is, these innumerable, intermediate, transitional forms of life which Mr. Darwin has so successfully produced in your presence. You will have noticed how difficult it was to sustain and perpetuate life in all of those forms. And especially in those forms of life that were half fish and half bird. You remember they could not stay in the water, because of the changes made necessary in the transition from fish to bird; neither could they stay out of water, because of the old fish nature, and also because they could not breathe the air, as yet. They could not fly; they could not swim; they could not walk. I am really afraid that the cold winter would be very disastrous to such a form of life. And then, who is there to bother to hunt worms for them to live on? And then again, the great difficulty of getting rid of all those seemingly necessary, intermediate forms of life, without leaving a trace of them, and restoring order out of this

chaos! This has been a troublesome matter for me to deal with, I assure you. Of course this was Mr. Darwin's show, and I was only a pleased spectator; but I have a different plan, a different way of doing this business from that of the eminent actor whose work you have witnessed. In my plan I do not have all, or indeed any of those intermediate forms of life. I do away with this apparent necessity by simply transmuting one form of life into another form of life. I simply make a bird out of a fish at one stride, full-feathered and ready for business. In my case it was a blue-jay, and he was a beauty. I have conferred with my venerable friend across the Channel, and he fully endorses my position. In short, he endorses evolution of all kinds and all shapes. You can count on him at any and at all times and under all circumstances. And I, my friends, would not say a word derogatory to Mr. Darwin's, or any other theory of evolution, being perfectly convinced that the principle of evolution is an eternal truth; and that the old dogma of the separate creation of each genus by a god is an 'old chestnut.' That much I know. And so I would say that it is our duty to adopt resolutions to the effect that evolution is the only scientific way to account for the different forms of animal life. Of course we do not need to say anything about this host of intermediate, transitional forms of life, or whether my way or Mr. Darwin's way or any other man's way is the best. We do not need to say anything about those minor differences of opinion; only to enthusiastically endorse the principle of evolution, keeping all those minor details, and in fact all differences, in the quiet. I thank you."

After this tall man had finished speaking, a heavy-set man, with large side-whiskers and a bull-dog jaw, arose and said: "Ladies and gentlemen: I am ever glad to add my word of testimony to this eternal verity, evolution. I am satisfied that the monera were the first form of life on this earth; and that all other forms of life sprang from this first form by evolution. That is sure! We have not the time to follow all these forms of life through all those different, transitional forms. It

is enough to know that inasmuch as the bird has two bones in the outer or lower part of the wing, and the horse has two bones in his leg, and in fact all quadrupeds have the same, therefore it is plain that all quadrupeds came up by evolution through the birds. The monkeys have two legs and two hands; therefore I am satisfied that Man must look for his progenitor in some of the monkeys. Why, just look at it for one moment! All the lower animals have all the essential vital organs that Man has—brain, lungs, liver, stomach, heart, and, lastly, an intestinal canal. Does not that prove that Man is an animal? Again, there is one monkey that has the same number of teeth and the same number of vertebræ that Man has; therefore it must be true that the monkey is the progenitor of Man. In your resolutions, do not, I beg of you, say anything about these intermediate, transitional forms of life, or transmutation either. It does not make any difference which way it was done. It was done, and that is enough! But of one thing I am satisfied, viz., the struggle for life has had a great and profound influence on evolution of the species. This Hobesian war that has been waged, by each against all, has had a mighty effect in killing off vast numbers in the animal kingdom; therefore I am well satisfied that the struggle for life has been one of the chief factors in the development of Man from the lower animal life. The evolution has been accomplished, and that is enough for me. It ought to be enough for any one. I therefore endorse what the doctor preceding me said as to the ratification of the doctrine of evolution. As being the only scientific explanation of the animal world by this convention. I also endorse the noble stand by the great actor in his demonstration of the principle of evolution. It is our duty to make this the sentiment of this convention. The great majority of the people will not investigate the subject for themselves and find out our differences as to the mere *modus operandi* of evolution, anyway, and so what is the difference? I thank you."

Loud and prolonged applause greeted this sentiment, and resolutions were passed enthusiastically endorsing

evolution as the only scientific solution of the enigma of forms in animal life on this globe, and also congratulations for Mr. Darwin's brilliant exposition of the same.

This scene illustrates the practical working of Darwin's theory in nature's process, in the production of new forms and new genera, with new organs, by evolution, from the supervising stimulus of selection. Does it not demonstrate the utter absurdity of the theory? There are some other very practical points brought out also, but which are left for the reader to figure out for himself.

As has previously been shown, Lamarck thought and affirmed that "the use and disuse of organs, according to necessity, would account for the development of new organs or the lapse of others." This is very loose constructive reasoning. For instance, how could a bird use a wing before it had one to use? How could any animal make any use whatever of an organ before it had even the very most incipient beginning of the organ to use? What, then, would give the first impetus to nature's process, to institute a new organ? Is it this very acutely discerning function, of the so-called law, "selection," that is to decide the needs of the new species, originate and execute the enforcement of the plans? This intelligence (?), said to be a law of Dame Nature, wholly outside of the body, to discern and decide what organs the new species shall have? Was it selection, or use and disuse of organs, that discerned the need in the bird for a crop, in which to store its food during the day; and the gizzard to grind and mix the food at its leisure; and originated the design of the same, made all the plans and specifications, and proceeded to execute the building of the same, by influencing the mother in some unknown way, to impress her progeny accordingly, while the future bird is yet being elaborated, in the primordial stage of its existence, in the workshop of the mother bird? This is where it would have to be, if it is to be at all. But just think for a moment of nature being so poverty-stricken that it has to resort to rebuilding an old form, when it makes a new genus. And then leaving the rebuilding, the making over of the old

shack, to such an impotent nothing as evolution. Think of it for a moment! The Author of the lilies of the field, which in the magnificence of their decoration outstripped even Solomon in all his glory, being so put to it for reserve power, exhausted and poverty-stricken, that He has to resort to such a makeshift as remodeling an old building as the habitation for a new creation. And not only doing this kind of business once, but at every divergence of the animal world doing the same thing. In the history of the world, nature never remodeled a structure. Is nature poverty-stricken?

The fish had neither crop nor gizzard; but the bird, after passing through all the reptilian species, according to Darwin, had both crop and gizzard. How, where and when did it get them? Was it while in the embryo bird that "selection" discerned that a bird should have a crop and a gizzard? Or was it the embryo bird that discovered that it should have a crop and a gizzard in its business, and, in some unknown way, made its wants known to this intelligent law, "selection," that it really needed those organs to be up-to-date? And then this law proceeded to originate the design, draw up the plans and specifications, and authorize the building of the same in the embryo bird? Which is it?

From the Darwinian standpoint, it would appear that the whole procedure was at the instance of this law, "selection." Again, we ask: Is not that a most wonderful, a most remarkable sagacity for a law to exercise? Deity could do no more. Is it possible that this law (?) of "selection" is set up as a god, to take the place of the Creator? It would seem so.

In nature there is very little variation in the species. The would-be law of selection has very little use in nature, according to Mr. Darwin's own testimony as regards the pigeon and the strawberry, for he says: "They began to improve just as soon as they began to be cultivated and cared for." Previous to that time, they made no improvement. But in domestic animals, this potency, which Mr. Darwin would have one believe was a law of nature, and which he has named "selection," is exercised by the owner or the gardener, thus varying

the breed to suit his fancy. In horses, they breed for use, according as they want draft, or speed, or gait; but after all the selection that has been practiced in the history of the world, every one expects to and does raise *horses* of the variety bred from, not quaggas, or cows, as a result. So that "selection" is at least ten thousandfold overestimated by Mr. Darwin in the natural world. We believe, as a matter of fact, that it does not exist, that it is not known at all in nature.

We know that the use and disuse of organs has a great influence on the stability of the organs. We know that the exercise of an organ or a function, within reasonable bounds, strengthens that organ or function and develops its functional activity to its full capacity; that exercise of any organ means the perpetuation of the physiological life of that organ. And conversely, the disuse of an organ will result in the atrophy and the physiological death of that organ. A notable example in illustration of this truth is found in the eyes of the fish in Mammoth Cave. Those fish are blind, simply because they could not use their eyes in that dark cavern of the earth. And because, for generations, they had not used their eyes, those organs atrophied, and shrunk to nothingness, and finally failed to be reproduced in the progeny; they have no eyes. On the other hand, no new organs were ever made in response to the cry of need for new organs. History records no such cases. Organic life is not like organic government in that you can create a new office and install a new officer at any time, having a dozen aspirants for the position to pick from. Organic life is a stable affair in that all individualities whose functions are the same, have the same organs with which to perform those functions. All organic forms of life are built on that basis. There is every reason to believe that no new organs have been added to any species since their creation. Neither is it reasonable to believe that the survivors of to-day have any less of the vital organs than did the first of the kind to be created. Most inconsistently, they insist strenuously on heredity as being a great factor in the process of evolution. Dr. Haeckel says: "If we cannot have

progressive heredity and transmutation, our theory is a failure." It is supposed that by progressive heredity he means a heredity that is quick to reproduce any new, progressive features developing in the progenitor, in the progeny. Such a heredity, for instance, as that which showed up in the fictitious case demonstrated by Mr. Darwin, making the progeny always to go a step farther than that which marked the development of the progenitor. That case certainly showed up a progressive heredity that ought to satisfy the most ardent; and yet, it is not in the least overdrawn, but just in accord with the necessities of the actor. Now, is that heredity? Not at all. The law of heredity must have been entirely suspended (in Mr. Darwin's mind only), and selection had full sway, anticipating the requirements in the progeny to be, and executing its designs on the primordial form. Again I ask, do you think that the laws of nature are so fickle and so easily suspended as to cease operation at the behest of a philosopher, so as to allow him to demonstrate his theory? Hardly. The law of heredity was suspended in Mr. Darwin's mind only; and all his creations are fictitious, the product of a fertile imagination; they never had an existence, as proven by geology.

If Man could suspend the laws of nature, we should not be surprised to see birds of paradise hatched from turtle's eggs, or a goose incubated from a canary bird's egg. Indeed, we might expect to see all kinds of nondescripts and monsters born into the world. But it is not so; this law, which we call heredity, is the omnipresent and most potent of all nature's laws; it keeps the species in the middle of the road, as it were, reproducing the sum total of the peculiarities of the two sexual elements, uniting to institute the new being. While selection, if there be such a thing in nature, is always looking for something new, and actually adding new forms, despite heredity; and transmutation, which has no existence only in some people's minds, would constantly counsel modification and change. Could they work together harmoniously?

Think of two such incompatibles being yoked together, as heredity and selection! Heredity impressing all the

peculiarities of genus and variety on the progeny, on the one hand; while selection is endeavoring, on the other hand, to induce the progeny to cut loose from its mother's apron strings and strike out for itself, metaphorically speaking. Two antipodes working on a poor innocent creature at the same time. Heredity acting to preserve stability, and selection trying to destroy stability and produce something new. One says, "Come this way; do not stay in the old rut." The other says, "Not so; follow the old type exactly." Can you imagine two more incompatible energies or laws being invoked at one and the same time to accomplish a desired end?

Would the law of heredity allow such a thing as that an invertebrate should give birth to a vertebrate animal, or a marsupial bring forth a mammal? Certainly the law of heredity must have been suspended entirely in these cases to give free rein to selection. But I appeal to all men of all nations, and to all history of all time, to answer this question: In whatever modifications there have been induced by selective breeding, are not those modifications always inside of the lines of genus, being restricted to the genus of the progenitors in every instance? Selection refuses absolutely to produce a new genus, even when it is enforced by man for curiosity's sake.

Dr. Haeckel, not being able to appreciate selection as the all-sufficient law, invokes transmutation to help his theory. This contemplates the change to take place in the individuality already in existence, and not in the progeny to be, while in the formative stage of its being. Bacon says: "Transmutation of one species into another species is an impossibility," and so it is. The notion of transmutation is a relic of the superstitions of ancient Egypt, continued down through the Dark Ages. Is it not astounding to see those superstitious ideas revived and renewed and advocated by educated men in this twentieth century?

As has already been shown, Mr. Darwin entirely repudiates the doctrine, to his credit be it stated, and claims that all the different species came by ordinary descent. Thus with him the invertebrate must bring forth the

vertebrate by numerous, successive, slight modifications of the form of the invertebrate organism. Would they not be a singular lot of nondescript specimens? But where are they?

Herbert Spencer was the originator of the phrase, "the survival of the fittest," as expressing the power that has produced the animal kingdom. He uses this expression in the same sense that Mr. Darwin uses "selection," but, in addition, he invokes transmutation strongly, and holds that transmutation explains the absence now and in the past of this host of intermediate, transitional forms of life. And yet by some this is called classified knowledge.

Certainly such fantastic fabrications tax the credulity of a sane mind to its utmost capacity. And yet the very people who are loudest in their endorsement of evolution as the science of life in the animal world, are the very ones who are ready to avow their disbelief in miracles, just as soon as the authorship is announced as God. But so long as the mystery is so deep as to be impenetrable by the human mind, and the authorship is unannounced but merely supposed to be an unknown, hidden or mystic power, exercised in some unknown way, these very people boastfully proclaim their acceptance and belief in the mysteriously fantastic, whatever it may be.

To a tamely imaginative mind, nothing could be more miraculous than that the fish-spawn should produce a bird after Darwin's plan, or that the fish should transmute itself or be transmuted into a bird, after Spencer, Haeckel or Huxley. These propositions, to my mind, reach the limit of ridiculous absurdity. Marie Corelli's imagination was very mundane, when she wrote the "Romance of Two Worlds," as compared to Mr. Darwin's "Evolution Phantasmagoria," or the absurdity of transmutation.

The man who succeeded in having his hens lay eggs with handles on them was quite considerate of ignorant humanity. He tells us just how it all came about, which I quote as follows from the New York *Tribune:*

"JERSEYMAN EVOLVES RACE OF EDUCATED AND OBLIGING HENS

"Robert E. Foster, Jr., of Newton, Sussex County, New Jersey, has, it is reported, succeeded in cultivating a race of chickens which produce eggs already fitted with handles for convenience in eating them. One exhibited was taken from the nest of a white leghorn hen. It is normal in size and general appearance, except that on the smaller end there is a continuance of the shell formation, measuring half an inch at its base, tapering for nearly two inches and ending in two points which resemble the tail of a fish.

"The form of the excrescence is a curve, the smaller end resting near the middle of the shell of the egg and having a perfect resemblance to the handle of a teacup. The opposite side of the eggshell is flattened so that the structure will stand alone. The hens have laid seven eggs of similar conformation, each furnished with a well-defined handle.

"Mr. Foster has devoted a large portion of his life to a series of experiments in the cross-fertilization of flowers and fruits. The egg with a handle is a direct result of his experiments in superinduced evolution. Several weeks ago, while breaking an egg at the breakfast table, he conceived the idea that an eggshell with a handle, which would form its own cup, would not only save lots of dish-washing, but would be at once a scientific and culinary triumph. Thereupon he caused the inside of the building where the hens were confined during the winter to be painted white. Food was taken to the hens in large, white vessels, each having one handle. Water was furnished in similar vessels of a smaller size.

"Across the single window white teacups were suspended on strings. No other furnishings of any other shape were permitted to be around the buildings. The hens were nightly sung to sleep to the tune of drinking songs. Within ten days many of the eggs had slight excrescences on one end, and after two weeks the new eggs had definitely formed handles.

"One notable incident apparently facilitated the experiment. Mr. Foster has a large, white rooster which two weeks since escaped from his coop into a neighbor's yard. The neighbor's small son chased the rooster home and threw at him a broken white pitcher which had a large and conspicuous handle. The rooster was much frightened, and the hens witnessed the occurrence.

"From that time there was a rapid development of handles on each successive laying of eggs, until the present almost perfect form was attained. The naturalist believed that fright and nervous shock accelerated the growth of the handles.

"When the home market is supplied with the new and valuable acquisition, Mr. Foster purposes to place some of the developed eggs under a hen. The result will be awaited with eager and scientific interest."

Great stress is laid, especially by Mr. Huxley, on the fact that all animals have all the essential vital organs that Man has; and it is argued, that such being the case, Man must have sprung from the lower animal life. In other words, because all the higher vertebrata below Man have brains, livers, stomachs, kidneys, skins and alimentary canals, therefore Man *must* be a descendant of this long line of vertebrata. Here is a line of organic forms inhabiting the earth, all existing under the same natural laws, each and all animated by a vital principle, all breathing the same air, all nourishing their bodies in the same way, viz., by the ingestion, digestion, and assimilation of food, to develop the body and repair the waste occasioned by the burning out of the constituent tissues, or the oxidation and consequent disintegration of the constituent tissues that go to make up the organisms. Does it follow that because the lower animals have livers, and that Man has a liver also, that Man must necessarily, or even probably, have been a descendant of this lower animal life? We say not at all; they say yes.

It is an undoubted fact that the lower animals have all the vital organs that Man has; but that fact, we hold, constitutes no proof whatever that Man's progenitor must be looked for in the anthropoid ape. To the writer,

the utter absurdity of this argument must be apparent to all. The reasoning reminds one of the Arkansas lawyer who was addressing a jury. The case before them was a damage suit against a railway company for killing a cow. The prosecuting counsel said: "Gentlemen of the jury: If the train had been running as slow as it should have ran, if the bell had been ringed as it ort to have been rang, or the whistle had been blowed as it ort to have been blew, none of which was did, the cow would not have been injured when she was killed." (*Puck.*)

To most minds, it would seem absolutely essential that these organisms should be similarly provided with vital organs, if all are amenable to the same laws. The laws of digestion are the same in all forms of life, in so far as that they eat much the same kinds of food. It takes the same process and the same juices, the same ferments and digestive elements to digest starch in the digestive system of the hog, cow or horse, that it does in Man. Each animal has the ability to select such food as is best suited to its use and liking, and so we have the *Herbivora* and the *Carnivora*. All have to have stomachs, and we find that the adaptation is perfect in all, not only in size and shape, but in the adjustment of the digestive fluids according to the wants of each individuality. So far as the physical system is concerned, they are all governed by the same laws. This being the actual condition, why should they not all have the same vital organs? It would seem an actual necessity that each should have the same vital organs to perform the same functions in each individuality. In the assimilation of food, including the process of transforming the food into such nutrient substance and condition that it can be taken up by the absorbents and carried into the circulating blood, and by that stream distributed, to form an integral part of the economy, whether it be man or beast, is identically the same in all forms of animal life, in principle, only that some are more complex than others. Those functions are performed by the same organs, relatively, in each individuality, the same being more or less complex and elaborate according to the requirements of the organism. So far as

we know, natural laws affect all subjects alike; there are absolutely no favoritisms in nature, evolutionists to the contrary, notwithstanding. The laws of nature cannot apply to one creature in one way, and to another, an associate, in a different way. The laws of nature are inexorable; they are not abrogated in favor of one subject, while enforced as to another. All animals that breathe air, do it in the same way and for the same purpose. It is therefore a necessity that the physical mechanism be built on the same principles at least, the elaborateness of the structure being adjusted according to the requirements of the individuality, just as we find them.

Because the opossum has a heart, and that heart circulates the blood in the opossum's body the same as my heart circulates the blood in my body, must I take that fact as conclusive proof that the opossum is my grandfather, away back in the line of evolutionary progenitors?

If all forms of animal life were not, perforce, obliged to exist under the same natural laws on this earth, there would be no necessity of having all forms of animal life fitted up with the same machinery approximately. But, inasmuch as it pleased the Creator of the universe to enact the same laws to apply to all His creatures alike, it became necessary that He create all animals along the same lines, in order that all might perpetuate life. This demonstrates the unity of authorship, and gives the reason for the harmony in nature, Mr. Huxley to the contrary, notwithstanding.

But let us go a step farther. The same Creator brought forth the vegetable kingdom on very much the same plan that He did the animal kingdom. Now, why not say that because all trees have roots, bark, branches, leaves and wood fibre, therefore all trees sprang from the same primary form of vegetable life, held by some to have been the fern? The physiology of life in the tree, say the hickory, is the same as in the fern; therefore the progenitor of the hickory is the fern. They both are reproduced in the same manner; their embryonic life is

very similar, therefore the hickory is a lineal descendant from the fern.

Such reasoning is analogous to that of Mr. Huxley's when he says: "It is only quite in the later stages of development that the young human being presents marked differences from the young ape. While the latter departs as much from the dog in its development as Man does. Startling as the assertion may appear to be, it is demonstrably true, and *it alone appears to me* sufficient to place beyond all doubt the unity of man with the rest of the animal world, and especially and more particularly and closely with the apes. Thus, identified in the physical process by which he originates, identical in the early stages of his formation, identical in the mode of nutrition, before and after birth, with the animals which lie immediately below him in the scale, Man, if his adult and perfect structure be compared with theirs, exhibits, as might be expected, a marvelous similarity of organization." To supply the corollary, therefore Man must look for his progenitor in the animal kingdom, and in the personality of the ape.

The premise, from which Mr. Huxley starts his reasoning, is based on the assumption that because the ape and man are brought forth in the same manner, and their embryonic forms look alike to him, and the adult structures exhibit marvelous similarity to him, therefore they are alike. The assumption is not true and the premise is a false one. They are not alike, even though they look alike to him. If they were alike they would develop into the same kind of being. The premise being a false one, the conclusion is necessarily erroneous, if the reasoning is correct. But, on this assumption, why not reverse the process and say: The ape is a descendant of Man because the ape has all the essential vital organs that Man has! Why not go even a step farther and say: Inasmuch as all the lower animals have all the essential vital organs that Man has, as all are brought forth in the same manner, therefore all animals must have sprung from the genus Homo by degeneration! In fact, the great naturalist, Saint Hilaire, first supposed such to be the case, and proposed to account for the dif-

ferent animals by saying that what we call species were degenerations from the same type. May not that "same type" have been Man?

I submit that the reasoning is just as good in one case as it is in the other. There is no basis for the reasoning in either case. At least it may be said both are fallacious, because the premises are false. Both are based on a false assumption, stimulated by a strong desire, yes, I may say determination, to substantiate a pet and impossible theory. The proof of the pudding is always in the eating.

It is believed by some that the life element in the animal and vegetable kingdoms are similar, if not only different manifestations of the same ego. Can anybody prove they are not? Then why should the two worlds not observe the same laws of reproduction throughout, as they do in part? Does anybody believe that all species of trees sprang from the fern, or any one common progenitor? Everybody knows from experience that that is an impossibility; not any more so, however, than that all animal life should have sprung from a single progenitor.

It has been conclusively shown, as we think, that animals and Man have the same vital organs, not because of the evolution of the species, but because it is a necessity of nature, because they all exist under the same natural laws, and must be similarly equipped.

It is likewise shown that the stress laid upon the similarity of organic construction, as a proof of evolution, is a delusion and a snare.

A recapitulation of the arguments in this chapter, perhaps, will show more clearly the baseless foundation on which the theory of evolution is placed. Special chapters will be devoted to the Osteology, Brain and Embryology, each.

Mr. Darwin says: "The strawberry began to improve just when the gardener began to be particular in the selection of the stock from which to raise the fruit." We believe that statement is absolutely true. (Does not that admission utterly destroy his theory?) "Selection," then, so far as the strawberry is concerned, had no existence

until the gardener exercised it. We believe that is just as true as the other. Selection is an act of volition, and volition is one of the functions of the mind. Now is it not plain that "selection" does not exist in nature, because nature has no mind? There is absolutely nothing to make the selection. It is a fiction, originated in the fertile brain of Mr. Darwin. To substantiate this view, if further proof is needed, you neglect those improved varieties of the strawberry, and see how quickly they will revert and go back to the original form, both in form and flavor of the fruit, and there pursue nature's wonted course, proving that variation by reversion is quite as common as variation by improvement of the varieties. It shows also that the influence of selection was only manifested while it was being enforced by the gardener. Such is the rule in all domestics, whether animals or plants. In the wild state, as they came from the hands of the Creator, there is very little variation. Mr. Darwin says the same thing about the rock-pigeon. According to his tell this bird had not changed since its creation. And so it is in the case of the wild, female mallard duck, already cited. Now if this be true of these specimens of species, why is it not true of all species?

But, for the sake of argument, let us grant that there may have been changes, some variations in the species of the mallard duck in the wild state, as it is claimed, because under domestication there are variations; and also grant that natural selection has had a hand in determining the survivors, because of its influence on the descendant in making it more fit in all its adaptations to possible new surroundings—more robust in body and more astute in character, etc.—would all that prove that a new form could, would, or ever did split off from the mallard, to develop into a new genus? As in the cases cited of the sheep, the pigeon, and the strawberry, after all the variations that any man has ever witnessed, the mallard duck is the same now that it was in Egypt five thousand years ago.

If it could be shown that any man had ever witnessed the evolution of a distinct genus, or even a different species, from that of the parent stock, that would be

proof of what is now assumption only; it would then be a settled fact. Or if history recorded any such thing, or if the fossil remains showed any of the transitional forms, which must have numbered millions upon millions in the past, there would be a basis for what is now assumption, viz., that evolution guided by selection is a factor in the production of the species. But there is neither of these forms of proof forthcoming. And I beg you to rest assured that if it were possible to produce any such proofs, the advocates of the doctrine of evolution would hasten to produce them. They cannot produce an iota of proof; on the contrary, the leaders are conscious of the weakness of their position, the whole thing being a series of hypothecated structures, a continuous chain of assumptions and inferences. Are those assumptions and inferences justifiable from any standpoint? If they are based on reason, then it is capable of demonstration, and needs not to rest on assumption. If such a condition of chaos in the animal world ever existed as would necessarily be produced by this host of intermediate, transitional forms, why does it not exist to-day? If they do not exist to-day, what reason have we to believe that they ever did exist? No reason whatever. The history of the world for more than five thousand years records no such thing as the birth of a new genus by ordinary descent. No such thing as the transmutation of one genus into another genus. No such things have ever occurred since history began to be written. Dame Nature must have made a change in her laws and her *modus operandi* about the time or just before history began to be written, and which changes brought about order out of chaos in the animal kingdom. And since which time she has adhered strictly to the rule that every genus, and creature, for that matter, shall bring forth of its kind only.

However, the evolutionists say the little time that history covers is but as a grain of sand on the seashore to the eons of time of which we have not the history, only as recorded in the crust of the earth. The little written history we have is nothing to go by, as the time it covers is too short to be of any use in deciding the question. If

evolution is the science of life on this earth, and dates from the first appearance of life on this globe, in fact, caused the first divergence after the spark of life had been accidentally lighted up in the monera, one hundred million years ago, it must have gathered a great impetus in that time. The product must have grown stronger and stronger with each change, and ought to be more apparent to-day than at any previous period. The great impetus gathered, with thousands of supply stations in the bodies of all the animals on the earth, could not be dissipated in an instant by nothing. And yet we are asked to believe that that same nothing enacted a new law in the place of the old one, changing entirely the *modus operandi* of nature! What is there in all nature to lead us to believe that there ever was a time when different laws stood in the place where, in nature, the present laws stand? (Such a question seems nonsensical, and would not be asked except that it is made necessary by the evolution doctrine.) Not a single thing in all nature indicates such a thing, but the doctrine of evolution makes it necessary that just such has been the case.

The whole structure of evolution is pure speculation, and of the wildest sort, without a scientific fact to back it up. A mixture of speculative philosophy and shreds of scientific tabulation, in regard to the structure of animals, misinterpreted or purposely taken out of their proper setting in nature, and twisted into fictitious, hypothecated structures to suit their fancy.

The scientific naturalist has changed his avocation from that of collecting the facts of nature as they exist, to that of giving a reason for their existence. To do that he has originated a theory and assumed that the theory is a demonstrated fact; he then seeks to mold everything to suit his theory. In attempting to reconstruct the past, they have allowed the imagination to usurp the place of the record of facts, and have written in the spirit of the novelist, rather than in the spirit of the naturalist and philosopher.

Theory is a good thing; some one has said that theory is the basis of all action. But before a theory can be

accepted as the expression of a fact or a truth, it has to be submitted to the crucible of test. And then if the result of the test substantiates the theory, it then becomes an established conclusion—it may be a fact or not. But if, on the other hand, the test does not substantiate the theory, but gives wholly different results from those which the theory justifies us in looking for, this theory must be abandoned, and a new one constructed which will conform to the facts as they stand. Suppositions must always give way to facts. The facts we must accept whether or not they are in accord with our theory.

In medicine, theory always goes before practice, unless it be a wholly empiric practice, and if the results we get, by following the theory on which the practice is based, confirm the predictions that the theory has made, the theory may then be accepted as expressing a mode of procedure and possibly a truth. If, on the other hand, the results we get are wholly different from what the theory predicted, then the theory is considered to be overthrown, to be branded as wrong, and may be condemned. Theory, *per se*, never cured anybody; but the tenets of a theory, having been put into the crucible of test, which is practice, may have cured thousands. So that theory has to be tried in this crucible of test before it is a reliable guide.

Put the theory of evolution of the species through the crucible of test, and see if the results are what the theory predicted they would be.

First. Taking an inventory of the results of one hundred million years (we are letting them have their own way as to time), during which time evolution is said to have been in operation, and in that time to have produced the animal world as it is to-day, as claimed by evolutionists, we find, sure enough, that the animal world is here. Now comes the trouble. How did it come? Did evolution produce it? If it came by evolution, as enunciated by Mr. Darwin, viz., by ordinary descent, besides the well marked genera which characterize the animal world to-day there should be now, or there should have been at some time in the past, an "innumerable host of intermediate, transitional forms of life on this earth,"

according to his own statement. Where is this host of intermediate, transitional forms of life? They are not here now, and geology says there never were any of those forms of life on this earth. But, on the contrary, geology demonstrates that there were well marked genera as far back as the Cambrian period. Now these are wholly different results from those predicted by the theory of evolution. Considering, then, that an essential part of the theory has failed to materialize, but rather contrary results have been obtained from those expected, the theory must be faulty, at least.

Second. It being an undisputed fact that the animal world is characterized by well marked genera to-day, and that, if the animal world had been produced by or in accordance with the theory of evolution, there could have been no genera to begin with, and that there could be no such thing now as genera, but, instead thereof, there would be now, as well as in the past, a motley mass of nondescripts, consisting of all manner of forms of life to be imagined; all capable of amalgamation without reserve, and procreating a progeny of still more motley and grotesque personality and appearance, *ad infinitum*. Such being the case, evolution, according to the theory promulgated, could not have had anything to do with the production of the animal world. It would have been an entirely different world if it had been produced according to the formula of the theory of evolution, as announced by Darwin. I will not stop to discuss, again, evolution from the standpoint of transmutation, as we have already disposed of that as being an impossibility. (The evolution of Mr. Darwin is just impossible.) So far, then, the theory will not stand the test; the facts are all against it.

Third. If there ever was a time in the past when the animal kingdom consisted of such a chaotic mass of intermediate, transitional forms of life as the theory of evolution calls for, how could the order that now exists have been established? Inasmuch as there is no other power invoked or mentioned, save this one of evolution, that they declare produced the convergence, it must have

worked both ways at once. Thus we arrive at the same conclusion as in the two previous indictments.

Fourth. Since science has declared that evolution is "neither a controlling law nor a producing cause," we are compelled to find that evolution is utterly impotent, cannot produce anything. Its function is merely and solely to describe the phenomenal order of things. The theory of evolution then, as having produced the animal world, is an entire misconception, a gigantic joke, a picturesque canard. It only represents Man trying his hand at creation, and recording a dismal failure.

Fifth. Allowing that there was an adequate causation acting when the animal world was brought forth, but which evolutionists ignore or deny, and that evolution was the *modus operandi* employed in the development of the species, why is it not operating now? When was the law of selection abrogated and the evolution stopped, and another law enacted in its place, binding the genera to reproduce of its kind only, at the same time making the genera incapable of amalgamation? But even that mild way of putting it contains an impossibility. If evolution was the *modus operandi,* it would then be a controlling law, which science has declared it is not. So that evolution and selection can have no place whatever in the production of the species. Therefore the theory which makes evolution by selection account for the production of the animal world is not to be accepted, but condemned, because it has failed at every turn to prove itself.

If the laws of procreation would allow of amalgamation of the genera, that would be a step in favor of miscellaneous development, and it might advance, or it might not; but it is not so, and, therefore, we have the genera to-day practically as they came from the hands of the Creator.

From these five tests of the theory of evolution, not one substantiates the theory, but wholly different results were obtained from what the theory calls for, and what Mr. Darwin declares must have been, in order to comply with the necessities of his theory. Are they not fair and decisive tests? Are there any other tests that would substantiate the theory?

Evolution is in no sense a cause. Evolution plus selection is in no sense a cause. Evolution is one of the cogs in the wheel of dynamics and deals only with the changes as they occur, by recording the phenomenal order, after the efficient cause has acted. Evolution never caused anything, much less a complex, organic being.

Take, for instance, the development of the oak from the acorn. The oak was latently, potentially, in the acorn, in all its varied possibilities. When the conditions were right, the oak began to develop from the acorn, not because evolution caused the oak or forced it to develop, but the oak developed from the acorn by virtue of the vital principle deposited in the acorn; which vital principle was the endowment of the acorn by the parent tree from which the acorn fell. This endowment is the sole cause of the development of the oak, being stimulated by its environment. This endowment is perfect and binding. An acorn cannot produce a beech or a maple tree, because the vital principle contained in the acorn is that of the oak; and so, if the acorn ever germinates and develops to maturity, an oak will result, just as surely as it grows. Evolution, standing by, merely describes the phenomenal order of the changes as they occur while the oak is growing from the acorn to the stately oak. But evolution is not yet done with the oak. For centuries, perhaps, the stately oak will weather the storms, withstand all the vicissitudes of nature, luxuriate abundantly, but sooner or later decay will set in, and continue until the once stately oak has crumbled to dust and is no more. This is the process of rolling up the product of the life principle, while attended by the unrolling of nature. This is de-evolution or devolution. Evolution has now the work of describing the phenomenal order marking the changes that come by decay, as it did the changes that came by growth and accretion. Thus evolution is not only a witness of advancement, but just as much a witness of retrogression.

In the writings of evolutionists, we see evolution used on one page as a cause, and on the next page, perhaps, as the effect. It is neither cause nor effect at any time.

In the study of animate nature, we find four character-

istics that mark the processes of changes in the organism, viz., generation, development, death and decay. It is a cycle composed of these four quadrants, repeating itself in every animate integer—animal or vegetable.

Generation, by the fusing of the two vital elements, the male and the female, into a vital principle, under suitable environment.

Development, by the action of the vital principle on the nutrient elements of nature in appropriating to its use these elements, and with them constructing and repairing the tenement used for its indwelling.

Death, by the vital principle ceasing to act in the tenement it has already built.

Decay, by the dissolution of the body from the action of the elements, according to the laws of nature.

Thus we see that this life force, vital force, life element, or physical entity, as it is variously called, is the only constructive force in nature. Where did it come from? All other forces of nature, *per se,* are destructive forces.

This vital principle is similar in the animal and the vegetable kingdoms in that it causes life and development in each case. They may, as is claimed by some, be parts of the same ego. In each case it is perpetuated in the same manner, viz., by transmission from the parent to the progeny, through the endowment of the vital elements of both the male and the female. Now the parent can transmit to its progeny only that which it has to transmit, viz., that which it received from its parents. And so on, back to the beginning. Every individuality transmits its own likeness to its progeny—no other. Not physical likeness, necessarily, but likeness in vital principle. Each genus has a life force peculiar to itself, and the life force of one genus cannot produce a specimen of another genus. Neither will the life elements of one genus fuse with the life elements of another genus.

This is not speculation, but it is a statement of the actual facts in nature, that anybody can verify. This being an incontrovertible fact, it shows positively that there can be no such thing as transition by descent of one genus or species into another genus, no difference

how many or how few intermediate forms there may be held to be. Ergo, Darwinian evolution is an utter impossibility.

In proof of the proposition that each genus has a vital principle peculiar to itself, permit this illustration.

Here are a goose, a sheep and a cow, side by side, and all eating grass. The nutrient elements in the grass eaten by the goose are assimilated, and from them the glands in the skin of the goose grow feathers. The grass which the sheep eats is also digested and the nutrient elements assimilated, and from those nutrient elements the vital principle of the sheep causes the glands in the skin to grow wool. The cow goes through the same process of eating, digesting and assimilating the nutrient elements of the grass, but the glands in the skin of the cow will grow neither feathers nor wool, but, instead thereof, they must grow hair. Here are three distinct and different products made from the same nutrient elements, simply as a result of having been run through three separate machines; the difference must certainly be in the machinery. And so the glands in the skin of the cow continue to grow hair; the glands in the skin of the goose continue to grow feathers; and the sheep is covered with wool, just as they have done through all the ages; and all notwithstanding there have been numerous variations of each species, under domestication. Such has been the case since, by God's fiat, the cow, the sheep, and the goose came into being. There may have been great improvement in each, but let them alone for a few generations and see them revert to their original type, as it is a well known fact that in in all domesticated species there is an inevitable tendency to revert to the original stock when left to themselves.

If the theory of evolution were true, there ought not to be this tendency to reversion; but, on the contrary, when an advanced position has been reached, the type should be permanent, and reproduce the perfect specimen. As according to the evolutionist's dictum that "all organic beings tend to inevitable perfection of the organism," is it possible, then, that what we call an improved variety is in reality a degeneration?

It seems to be a law of nature that reversion should follow advancement. And this is in perfect consonance with all other laws, if our position regarding the life principle is correct. (See Embryology.) All variations that come to the individuality after its birth, or during the developmental stage, as from environment, which includes accidents, luxury, famine and pestilence, are not permanent in the variety or species, and so are not transmitted to the progeny, because they were not included in the endowment originally. The child was not born with them; they are additional and not inherent properties of the vital principle. So that, when the conditions are removed which produced the additional properties, the original, inherent form is resumed.

This is in strict accord with heredity. This being so, what becomes of those "few favored ones that shoot ahead of their fellows"? Would or could they inaugurate a new, advanced species? Not at all.

These four stages follow each other in varieties of species, races of men, peoples, and nations. They are born, they develop, they die, they disintegrate—a symbolical crumbling to dust. Ancient Egypt and Babylon were born, they developed luxuriantly and reveled in excesses, they died and crumbled to dust. The ancient Greeks and Athenians had their birth, their development, becoming the most scholastic civilization then known among the nations of the earth; they died and disintegrated, and are now only a remembrance of what they were. Rome also had its birth, developed exceedingly; it also died, and disintegration removed the debris. Many other nations, peoples, and races, which I need not mention, have passed through, or are now passing through, the same four stages attendant upon all organic forms. Of all the destructive forces that have had to do with the debauchery and ultimate death of men, races, peoples and nations, luxury stands at the head as a primary, causative factor. While a strenuous life is a blessing in disguise, luxurious revelry exhausts the vital forces by inducing and initiating habits of life which are incompatible with sturdy development and long perpetuity. The exhausted vital principle is incapable of endowing

the vital elements sufficiently to produce a potential vital principle in the progeny, and so they dwindle and wither away, die and are removed by disintegration, perchance to give place to a more virile vital principle. Now, evolution had a hand in all this—but how? Metaphorically, it was the secretary who marked the phenomenal order of the generation, rise, fall and disintegration of each; but it was not a causative factor at any time.

It is worth while to note, that in the animal kingdom luxury is not a factor; and so the membership avoid the bad effects of it. In the human species luxury reaches its climax in effect, and as it affects one member, it affects all under like circumstances. So that civic society, especially, is being honeycombed with debauchery of all kinds and degrees, on account of the luxuries indulged in, and the scramble, including fair means and foul, after the wherewith to buy it. This condition forebodes reversion, sooner or later, and removal by death and disintegration, to give place to a newer and stronger vital principle, perhaps. Or, as in the cases of Babylon, Greece and Rome, the Anglo-Saxon race will be succeeded by a less progressive stock, which, in its turn, will have its generation, rise and fall, should the world continue to stand long enough.

Just now the Anglo-Saxon race is at the helm of state, as it were, and it rests with them to steer toward a higher or a lower destiny.

But some one will say: This sounds exactly like the doctrine of evolution, as presented by the evolutionists of to-day. Yes, it is an evolutionary process, but mark the difference. In the above evolutionary process, an efficient cause has acted to bring about the evolution, and evolution is marking the steps as they occur, while in the evolution of the species doctrine of Mr. Darwin and others, evolution is set up as the cause of the changes.

From the foregoing it must be apparent that reversion is a constant attendant on all organic life, and seems to be a law of nature. From whence came the laws of nature? From the great First Cause, the Creator. Almighty God enacted them when he constituted the world and all that in it is.

CHAPTER III

OSTEOLOGY IN MAN AND MONKEY

INASMUCH as the evolutionists have magnified the likenesses in the skeletons of the ape and the human being, we will note something of the differences as well. We have already spoken of the likenesses and differences that exist in the essential vital organs of the lower animals and Man, and accounted for their likenesses and their divergences also. We will now confine our comparisons between *Homo* and *Troglodytes.*

The similarities of the two are not denied, but the different interpretations of these likenesses put different meanings into them. The interpretation that says "These likenesses constitute the proof that the two species are relatives; the one is the progenitor of the other," is quite different from the interpretation that says "The likenesses exist because the two species exist under the same natural laws; the homologous organs were made to perform the same functions in the two or more species." The laws under which the homologous organs perform life functions apply to each species exactly alike, therefore it is a necessity that the construction of those homologous organs be similar, in order to simplify the controlling laws. The last interpretation then becomes a necessity; while, in the mind of the writer at least, the first interpretation is an erroneous one, wholly unwarranted.

Prof. Huxley says: "Regarded systematically, the cerebral differences of Man and apes are not of more than generic value, his family distinction resting on his dentition, his pelvis and his lower limbs. Thus, whatever system of organs be studied, the comparison of their modifications in the ape series leads to one and the same result—that the structural differences which separate Man from the gorilla and the chimpanzee are not

so great as those which separate the gorilla from the lower apes."

It is almost inconceivable that a scientist, such as Prof. Huxley aspired to be, should make such a statement—his family distinction resting chiefly on his dentition, his pelvis and his lower limbs. Is it really true that such are the only differences which Prof. Huxley can discover between Man and the gorilla? If it is true, he cannot be blamed for espousing the cause of evolution. A mere tyro could spend an entire day in reciting the differences between the two eminent characters.

But how can that statement be consistent with the following statement made by the same author, Prof. Huxley? "But in enunciating this important truth I must guard myself against a form of misunderstanding which is very prevalent. I find, in fact, that those who endeavor to teach what nature (?) so clearly shows us in the matter are liable to have their opinions misrepresented and their phraseology garbled, until they are sure to say that the structural differences between Man and even the highest apes are small and insignificant. Let me take this opportunity, then, of distinctly asserting, on the contrary, that they are great and significant; that every bone of a gorilla bears marks by which it might be distinguished from the corresponding bone of Man; and that, in the present creation at least, no intermediate link bridges over the gap between *Homo* and *Troglodytes*."

If the differences are so great and significant that every bone in the gorilla's body bears marks by which it may be distinguished from the corresponding bone in Man's body, there are certainly more differences between the two species than that of shape, viz., of the pelvis, the lower limbs, and the teeth. But, reader, I would have you remember that he is only speaking of the bones here which constitute only the most minor and unimportant differences between *Homo* and *Troglodytes*. The bones alone do not constitute the personality of the gorilla, neither that of Man. Then why say that his family distinction rests on dentition, his pelvis and his lower limbs?

Possibly some one will say: In the first quotation, Prof. Huxley was speaking from a purely scientific

standpoint. Well, if scientific attainments tend to dethrone or wipe out good sense and reason, it is better not to be so scientific. But is the statement true even from a scientific standpoint?

If the differences are great and significant, what are they significant of? Mr. Huxley does not say, but I will. The differences are significant of the fact that the two species are no relation to each other, which they are not; that they belong to two entirely different genera; and that whatever likenesses there are, are necessities of construction and function in order that the same laws of nature may be applicable to each.

The only way to account for the two conflicting statements is to presume that in the one instance, the first quotation, he was arguing his case at close contact, while in the other he was railing at criticism, and inadvertently contradicted himself, while telling the whole truth.

Before anything is said about the differences in the bones of the genus *Homo* and *Troglodytes* (and not much is needed to be said after the sweeping acknowledgment above quoted from Prof. Huxley), I wish to notice the last clause of the quotation, viz., "and that in the present creation at least, no intermediate link bridges over the gap between *Homo* and *Troglodytes.*" Now compare that with what Dr. Haeckel says on the same point, which I will quote. You will see by the comparison that the eminent men differ in their opinions. The one asserts very bluntly that no intermediate link bridges the chasm between *Homo* and *Troglodytes,* while the other asserts just as bluntly that the missing link has been found—the history of which I will give you from his own pen. The reader will have to determine for himself the meaning of this difference of opinion between two great leaders in thought, in what they call science, but which may more appropriately be called classified speculation than classified knowledge. For instance, in the first quotation from Prof. Huxley, the imagination is unbridled, and good sense is smothered into silence; mole-hills, in the way of incidents, are magnified into mountains of significance by their imagination lenses.

It should first be stated that writers on evolution as-

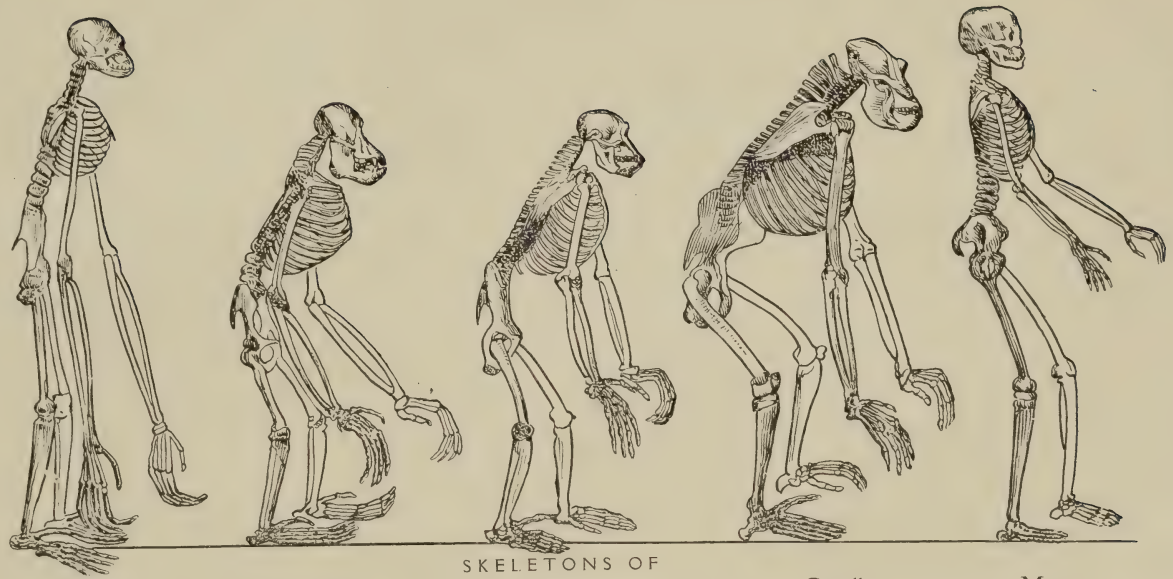
sume the right to interpolate a specimen, at any time when they need one to meet their requirements, just to suit their fancy.

It was in 1866 that Dr. Haeckel completed his plans and specifications for the *Pythecanthropus erectus,* as an hypothetical being, to form the connecting link between Man and monkey. From that time until 1894, all eyes were turned, and all energies bent, to find the required link with which the monkey might legitimately call Man "Grandpa's darling pet," when Dr. Dubois unearthed the relic on the Island of Java, where the remains "rested upon a conglomerate, which lies upon a bed of marine marl of Pliocene age.

"Together with the bones of the *Pythecanthropus* were found those of the *Stegodon, Leptobos, Rhinoceros, Sus, Felis, Hyena, Hippopotamus, Tapirus, Elephas,* and a gigantic *Pangolin.* Unfortunately, the fossil remains of this creature are very scanty—the skull-cap, a femur, and two teeth. It is obviously impossible to form from these scanty remains a complete and satisfactory reconstruction of this remarkable Pliocene primate. The exhibit of these bones caused an animated discussion at the third International Zoological Congress at Leyden. There were a great many opinions *pro* and *con.* The teeth are like those of Man. The femur also is very human, but shows some resemblance to the gibbon's. The skull-cap is also very human, but with prominent eyebrow ridges. It has a cranial capacity of 1000 cubic centimeters, that is to say, much more than that of the largest ape, which has not more than 600 cubic centimeters. The bones indicated an animal that stood not less than five feet six inches high. The eminent naturalists could not agree as to what animal they represented. Prof. Virchow maintained that the skull was that of an ape, while the thigh belonged to man. He explained that certain exostoses or growths observable on the thigh proved its human nature, since only under careful treatment the patient could have healed the original injury, presumably a fracture. And as a last decisive argument, the Berlin pathologist declared that the deep constriction behind the upper margin of the orbits proved

that the skull was that of an ape, as such never occurred in man. But, as they could not agree, the congress appointed twelve men, experts, to sit as a jury to settle the question. Of these twelve, three held that the fossil remains belonged to a low race of Man, three declared them to be those of a man-like ape of large size, while the other six maintained that they belonged to an intermediate form, which directly connected primitive Man with the anthropoid apes. This last view is the right one, and accords with the laws of logical inference. He is indeed the long searched for 'missing link,' for which I, myself, in 1866, proposed the hypothetical genus *Pythecanthropus erectus,* species *Alalus.*"

Dr. Haeckel appears to be happy. He has at last got the fellow for which he made out the plans and specifications away back in 1866. Such is the evidence as given by Dr. Haeckel himself, and upon which he bases the claim that the missing link has been found. Certainly such evidence would not convince an unbiased, unprejudiced mind. It did not convince even Prof. Huxley. There are too many possible loop-holes, too much room for knavery, especially, since in all the history of the world fossil remains should produce only these mere fragments of a skeleton, since there must have been millions, if any, intermediate *Pythecanthropii.* When we stop to think that this one fragmentary specimen is the only intermediate form that has ever even been pretended to have been produced at any time or place, it suggests strongly that the venerable Prof. Virchow was right in his opinion. To say the very best that can be said of it, the case stands on very poor support. Especially is this so when it is remembered that the jury disagreed; they have no verdict; the case is not settled yet. Possibly Prof. Huxley was one of the experts who hung the jury and caused the disagreement. At least, he denies absolutely that any missing link has been found. But a really strange incident has here occurred. Why should a scientist who does not believe in any intermediate forms, but depends entirely on transmutation for his new, higher species, now invoke the aid of this intermediate form in the individuality of the *Pythecanthropus erectus?*



SKELETONS OF

Gibbon. Orang. Chimpanzee. Gorilla. Man.

(The Gibbon is twice the proportionate size).

The cut of the skeletons of the higher apes, the gibbon, orang, chimpanzee and gorilla, and the skeleton of Man, will show the likenesses and the differences in the bony framework of the several species better than I can describe them in words. We see that the bones are very similar in each of the species, yet we are told that each bone of each animal bears marks by which it may be told to which species it belongs. The general poise of the body shows plainly that Man was created to stand in the erect position. The poise of the head on the spinal column, it being farther toward the front of the occipital bone, shows the same thing, even making it necessary. The difference in the shape of the pelvis also proves this. The difference in the length of the arms shows that Man was not intended to use his arms and hands to walk upon, as were the apes. The position of the great toes in Man shows that the feet were organs made for locomotion, and not for hanging to a limb in a tree like an ape, by opposing the other toes. The muscular attachment and the muscle that gives leverage to the great toe in Man are wholly wanting in the ape's foot, but are to be found in the front foot or hand of the ape, with insertion by three tendons instead of one, in the three middle toes. This mechanism gives the ape extra strength in the front foot, so as to enable him to climb trees and sport in the branches. Do you really think selection, or the struggle for life, or the survival of the fittest, assisted by the changes of any number of years, could transfer that muscle from the front foot of the ape to the foot of Man? Incredible. And yet, if that same *nothing* can make a lung out of the swim-bladder of a fish, this feat would be easy.

The great toe in the ape is opposing, like the thumb of Man's hand, and similar to the hind foot of the opossum, to enable the ape to clutch and cling to a limb. The cavity of the skull in Man is more than twice as large as that of the ape, Man's nearest approach. What, think you, gave the impetus for the enlargement of Man's cranial cavity over that of the monkey? Was it necessity, because Man had accidentally contracted the habit

of talking, and because of this found his brain growing, so that the skull had to be enlarged to accommodate the growing brain? Or was Man's brain created approximately as large as it is now? (See Chapter IV.) Man's jaws do not protrude like the ape's. Of course both species have teeth. I wonder why that is so? This being a fact, it is positive proof, not that both species have to masticate food, but that they are related to each other. That very thing constitutes positive proof that the anthropoid ape is the progenitor of Man, does it not? They say yes. And then again, in proof of that proposition, Prof. Huxley says there is one species of the ape that has the same number of teeth that Man has, all the rest having from four to six more.

The skin of the ape is covered with hair, while the skin of Man is not. (See Darwin's account of how Man's body became divested of hair, Chapter VI.)

The whole make-up of Man's bony framework shows plainly that Man was made to dwell upon the ground, while the whole make-up of the ape's frame shows that it was created for an arboreal life. The ape's specialty is not walking upon the ground, but that of climbing trees and sporting among the branches.

Personally, I put little store in either the likenesses or the differences in the skeleton of the ape to that of Man. Neither the likenesses nor the differences prove anything farther than that they are similar or dissimilar. While the monkey has essentially the same framework that Man has, it does not follow that they are related in any way. If the skeleton of the ape was exactly like the skeleton of Man, even that would not convince me that the ape was the progenitor of Man, or that it was and is a relative of Man. Common sense tells us that the framework, consisting of bones, was and is a necessity to each species, to enable them to move their bodies and to fulfill their respective destinies. Without the bony framework there could be no motion of the bodies. The principle of the lever and the fulcrum is evidently the one adopted by the Creator, as the best and only principle of construction adequate and desirable for the voluntary production of motion in the animal body.

"He saw that it was good," and, with a few alterations, He made Man on the same physical principles that He had previously made the animal world, because Man had to exist under the same natural laws with the animal world, and it would take the same, or similar machinery, to do the same thing in each species. Biblical history distinctly states that Man was created the last of all creatures, and that finding corresponds with the findings of geology. The essential difference between the ape and Man lies not in the physical body, but in the personality and the vital principle that vivifies the body of each species. The vital principle that determines and builds an ape's body cannot determine and build a Man's body; not at all. Neither can the vital principle that determines and builds a Man's body determine and build an ape's body. The vital elements of Man will not fuse with the vital elements, male or female, of the ape; which fact proves, yes, demonstrates beyond the possibility of doubt or quibbling, more effectually than all the arguments that can be produced, that Man and ape are now, and always were, from entirely different genera; they are no relatives to each other. One species cannot produce the other species; they cannot even amalgamate with each other; and, therefore, the ape cannot, under any circumstances whatsoever, be the progenitor of Man. If it ever was done, it can be done again. The same laws that were in operation when Man first made his sudden advent here govern the universe now, and therefore reproduction. Geology demonstrates that the advent of Man was sudden, as with all the different species. There were no forerunners, in the shape of intermediate, transitional forms, to any of the species. Each genera was an entire new deal. This being the case, we have every reason to believe that there never was a *Pythecanthropus erectus,* species *Alalus,* on the face of the earth, only as it existed in the mind of Dr. Haeckel. It is plain, from what Prof. Huxley says, that he thought the same thing. But there are some people who prefer, apparently, to believe that their progenitor was an ape, rather than believe that God created them in His own image by a special act or fiat. The writer does not.

CHAPTER IV

THE BRAINS OF MAN AND MONKEY COMPARED BY ANATOMISTS

The question of the likeness of the brain of Man to that of the orang-utan or the chimpanzee is a very interesting one, and has engaged the attention of naturalists and anatomists for a generation or more. Many and repeated examinations of the brains of each species have been made for the special purpose of comparison. I have not the disposition nor the ability to enter into a discussion of all the minutiæ of the likenesses and the differences in the brains of apes and men, because I have not made the necessary dissections to enable me to speak authoritatively from personal knowledge; but I will make a few quotations, on each side of the question, from the various disputants' writings, which will give the present status of the very interesting question we are considering.

Prof. Huxley says: "So far as the cerebral structure goes" [Please to mark that], "it is clear that Man differs less from the orang and the chimpanzee than they do even from the monkeys, and that the difference between the brain of the chimpanzee and Man is almost insignificant when compared with that between the chimpanzee's brain and that of the lemur." Prof. Bischoff remarks with reference to the above quotation, after repeated examinations of the brains of the several species: "If we successively compare the brain of Man with that of the orang, the brain of this with that of the chimpanzee, of this with that of the gorilla, and so on of a *Hylobate's, Semnopythecus', Cynocephalus', Ceropythecus', Macacus', Cebus', Callithrix', Lemur's, Stenops', Hapale's,* we shall not meet with a greater, or even as

great a breach in the degree of development of the convolutions, as we find between the brain of man and that of an orang-utan or chimpanzee."

Here is a flat contradiction on a demonstrable question. However, there is a loop-hole in Prof. Huxley's assertion, which may serve to reconcile the differences in the statements. Prof. Huxley's statement is incomplete; it is only a partial representation of the point under consideration. He says, "so far as the cerebral structure goes," which apparently means to consider all the brain of the orang-utan and the chimpanzee, but only that part of the brain of Man that compares with that of the orang and the chimpanzee. The statement of Prof. Bischoff covers the development of the convolutions of the whole brains of each species. There is no loop-hole in his statement where he says: "If we compare the brain of Man with that of the orang, the brain of the chimpanzee," etc. Not a part of the brain of one with the whole brain of the other, but the whole brain of each species with that of the other. The weight of evidence is decidedly in favor of Prof. Bischoff being right, as he was an eminent comparative anatomist, of world-wide reputation, having spent a lifetime in the study; whereas Prof. Huxley was comparatively a novice in comparative anatomy, and had never made a dissection of the brains of the orang-utan and the chimpanzee until he began to study and develop the theory of evolution in that particular line, while occupying the chair of natural history in the Royal School of Mines, as he says himself. And, again, because Prof. Huxley is the only man that ever said the brain of the orang is more like the brain of Man than it is like the brain of a monkey, even "as far as it goes," perhaps his zeal for evolution, as in the case before cited, had as much weight with him in making the assertion as the inspection of the brain of the orang.

Prof. Huxley admits that "the Man's cerebral hemispheres are absolutely and relatively larger than those of the orang and the chimpanzee; that his frontal lobes are less excavated by the upward protusion of the roof of the orbits; that the gyri and sulci are, as a general rule, less symmetrically disposed, and present a greater

number of secondary plications." He admits further that "as a rule in Man the temporo-occipital or external perpendicular fissure, which is usually so strongly marked a feature of the ape's brain, is but faintly marked." How does this quotation comport with the first?

Gratiolet has pointed out that "there is a fundamental difference in the development of the brains of apes and of Man, consisting in this—that in the ape's, the sulci which first make their appearance are situated on the posterior region of the cerebral hemispheres, while in the human fœtus, the sulci first become visible on the frontal lobes."

It has also been pointed out that there is a fundamental difference in the fully developed brains of the orang and the chimpanzee to that of Man, in that "in the ape's brain the cerebrum is not developed back so as to cover the cerebellum, and that the frontal lobes are larger and not excavated by the roof of the orbits in Man as it is in the orang and chimpanzee. They are called 'short-hemisphered brains,' so that when the skull-cap is lifted off, the cerebellum is plainly visible. In Man, the cerebrum extends backward so as to cover completely over the cerebellum."

As this part of the brain is the seat of all the nobler faculties which characterize Man, at least from a phrenological point of view, and as well determined by "cerebral localization," where are located the organs of self-esteem, love of approbation, cautiousness, benevolence, veneration, firmness, conscientiousness, hope, wonder, and ideality, certainly there is a fundamental difference between the brain of Man and that of the orang or the chimpanzee. All these characteristic organs, and therefore traits of character as expressed by them, are lacking in the brain of the orang and the chimpanzee. Cut out of Man's nature all of these noble characteristics and he would indeed be a sorry specimen of a man. How did Man come by this additional brain matter if his progenitor is the orang or chimpanzee?

Evidently Mr. Darwin does not believe in phrenology or cerebral localization; neither does he believe that the additional size of the brain of Man, over that of the

orang or chimpanzee, would account for the higher faculties, the moral qualities of Man's make-up. He says: "The development of the moral qualities in Man has its foundation in the social instincts and family ties. These instincts are highly complex, but the more important elements of love and the distinct emotion of sympathy, as they are highly beneficial to the species, have in all probability been acquired through natural selection." Thus he assumes to account for two of the noblest qualities of the human mind on the basis of synthetic mechanism, or synthesis and mechanism. Just think of an emotion, which is a distinct function of the mind, and induced primarily by an action of the brain, being acquired by a mechanical process—natural selection! The little child, seeing its mother distressed and crying, cries in sympathy with her, by virtue of natural selection! Is not that the climax of absurdity? If that is the case, Man deserves no credit for the exercise of either of those qualities of mind, love or sympathy; but, on the other hand, whether he shows love or hatred, sympathy or revenge, he had to act as he did. He had no choice in the matter, he was impelled by this so-called law of nature. He could not, then, have acted differently than he did, because these qualities of mind were selected for him, not by him. He had no free will, no free moral agency.

Apply this doctrine to humanity at large. There is no such thing as crime; no such thing as wrong-doing. All punishment, under the guise of statutory law, is an outrage on the individuality so punished. Logically, there can be no laws. This is fatalism, pure and simple. Anarchy, then, is the highest form of society, and the only justifiable condition of society. All laws and all courts are simply means set up by the rulers to rob all the rest of society of their rights. Does any good citizen believe in anarchy? Such is the only logical deduction to be drawn from the premises set up.

This is the nearest approach he has made at connecting the material world with the immaterial world by his formula. Is it reasonable? Is it true? It is a lamen-

table fact that some people act on that theory, whether they believe it or not; but who are they?

Do social instincts and practices tend to stimulate the moral qualities in Man? The history of the world says no. On the contrary, they tend to stimulate immorality. It is only in the abstraction of the human mind, the getting away from self by meditation, or the influence of a moral mind and teaching, that gives an uplift to the moral nature.

All animals have brains sufficient for their station in life; some more than others. The brain of the ant, said to be one-quarter the size of the smallest pinhead, is also said to be the most wonderful thing in the world in its structure. Yet this miniature brain is the seat of an intellect, or an instinct, that is marvelous. There are several species of the ant, and though some are incapable of even feeding themselves or their larvæ, or making their own nests, they are most expert and industrious in capturing and making slaves of another species of ant, while, at the same time, they are absolutely dependent on those slaves for their lives. At times of revolt of the slaves, which frequently occurs, they marshal their armies, establish their outposts, set their guards, and systematically attack and subdue the rebellious or revolting slaves. They have commanding generals, and several grades of sub-officers, and move with the precision of a trained army of men. From whence comes their astute character? Is natural selection capable of explaining it?

All animals are called upon to use their brains and their senses in the same way that Man is, according to the necessities of the case. It is the same intelligence, as far as it goes, that Man uses, each one according to his requirements. There is but one intelligence on this mundane sphere, and all brains are so constructed as to make use of that one intelligence, according as it may be necessary to meet the requirements of each individuality. The automatic brain in the animal performs the same functions in the animal that the same brain does in Man, and these automatic brains, therefore, are more nearly alike than the brain which evolves mind, the

cerebri; however, some animals have this brain more elaborate in arrangement and detail than others.

The human being has more brains than the animal has. The structure is larger, and has more apartments in it than has the animal brain. Practically all the mental faculties which are characteristic of Man are represented by additional brain substance, over and above what the brute has. That part of the brain in the brute is very primitive, and what it has gives rise to, or evolves, instinct, and not mentality. This is where Prof. Huxley fortifies himself with the phrase "as far as it goes"; but even here he is wrong, else we have to admit that the dog reasons. Now, is it reason or instinct, in the bird-dog, that makes it "point" when it scents game?

The prime question is, how did Man come by this additional and more perfect brain substance, over and above what the brutes have, even allowing the animal brain, "as far as it goes," to be identical? Darwin would say, by evolution guided by selection; Haeckel and Spencer would say, by transmutation; and Prof. Huxley would say, in any old way.

Now, the same arguments adduced heretofore in these pages are applicable here, and need not be repeated. They show that this theory of evolution, or evolution plus selection, is utterly impotent to produce anything, and so could not have produced the extra brain matter in Man.

If the animal is to use the brain to perform the same functions even as far as they go, as Man does, why should not the brains be alike, in so far as they include the same functions? All are built for the same purpose and operate under the same natural laws. Nature is never prodigal, never wasteful, but always conserves her forces.

It is a fact that all animals have the same essential vital organs that Man has, so far as the physical system is concerned; and also that those vital organs perform relatively the same functions in each. It is very reasonable, therefore, that each should be supplied with the same, or at least a similar, motor force or power; the strength of the batteries being graduated according to

the necessities of the case; but all being dependent upon a similar kind of motor power to run the batteries, which is the vital principle of each individuality in every case. It then becomes a necessity that the mechanism be similar, where similar ends are to be reached.

It is the *interpretation* that is to be put on these likenesses that we are now discussing, and not the admitted fact that there are likenesses existing in the organisms of Man and the lower animals. The proposition of evolution doctrine is that because the lower animals have all the essential vital organs that Man has, therefore Man is related to the lower animals. Yes, they go farther than that and say, because Man has all the essential vital organs that the lower animals have, Man must look for his progenitor among the lower animals. Is the deduction justifiable? We say no!

To illustrate: I have before me three silver dollars. They are all the same size, all the same thickness; all are milled alike around the edge; they are as much alike on the obverse side as on the reverse side; indeed, whichever way you look at them, they look alike; and, more than that, they were all issued by the same authority. Now, is all that to constitute unmistakable proof that all were coined at the same mint? I will admit that it may be so construed by some people, but that will not alter the facts in the case; and, what is more, all would not so construe the evidence. There is a mark on each one of the dollars that is positive proof that they were not all coined at the same mint; but, on the contrary, it shows that one was coined at Philadelphia, one at New Orleans, and one at San Francisco. I might further illustrate by a hundred machines of similar pattern. The mere likeness does not decide the question at all. Some one will say, what does decide the question? I answer, the mark on each coin; the individuality of each machine. This individuality shows that it was constructed by an individuality in the brain of the builder. The vital energy and the mechanical genius in the inventor produced the machine; and laws, human laws, prevent infringement. Just so it is in the animal kingdom; the mark there is the constructive force, the vital principle, in

each species; and Divine law prevents amalgamation or mixing of the genera. One genus cannot produce a specimen of another genus, no matter how much he may chance to "shoot ahead of his fellows" in development. Each one has stamped upon his body the initial of the mint in which he was coined, and though they may look alike and perform the same functions exactly alike, they are not alike in genera; they are no relatives to each other, but entirely different and distinct. Therefore the deduction referred to is not justifiable, because the one could not produce the other. So that the interpretation making the gorilla or the chimpanzee the progenitor of Man, simply because the gorilla or the chimpanzee has the same vital organs, is gratuitous as well as erroneous. The reason for the likeness is that they are used for the same relative purposes in the different species. The likenesses in the vital organs in two species offer no reason to believe that the one can produce the other. The vital principle of the ass cannot construct a horse. The vital element of the ass and the vital element of the horse will fuse and produce a creature that does not resemble either an ass or a horse. This creature is barren, because it has no laboratory in which to construct a vital element, or that the gates of ingress are closed. It is a hybrid, so-called, but not strictly. So that a mule cannot transmit a vital element; therefore a mule has no progeny. Now, reasoning by analogy, such would be now, or would have been in the past, the case in every instance of the intermediates produced by the evolution theory. They *might* be able to take just one step, but that is all. However, so rigid is the law against amalgamation of the species that there are only a few possible exceptions to the rule, seemingly, though they are not real exceptions. Those seeming exceptions occur in cases of different species of the same genus, but which have been considered by some to be distinct genera; but fertility is now considered the supreme test of genera. From this, also, we have positive proof that the evolution theory is wrong, radically wrong, and cannot stand, but must be abandoned.

There can be no doubt that the Creator could have

constructed each separate genus on a different plan from that of all others if it had pleased Him to do so; but it must be very evident that if He had done so there would not be, there could not have been, the unity and, therefore, the harmony in the universe of nature that there is now; but, instead, vast complications of what we call nature would have been a necessity, in order that each species should have suitable environment. The interpretation of this unity of design in the physical systems of the species is far from a confirmation of the theory of evolution. But this unity of design demonstrates the unity of authorship and purpose, and simplifies the laws of nature to a unity, instead of vast complications.

The brain of Man is a decided enlargement and improvement on the brain of the orang or the chimpanzee, Man having on an average 48 to 50 ounces of brain matter, while the orang or chimpanzee has only 18 to 20 ounces. Now, what great power or what controlling influence gave the impetus to this enlargement and improvement, and at the same time changed the entire system of the individuality of the orang or chimpanzee to that individuality of Man? The evolutionist says: Evolution, urged on by "selection"; or evolution, urged on by "the survival of the fittest"; or evolution, urged on by 'the struggle for life," according to which wing of the nondescript he is under.

What intelligence guided the architecture, and pointed out the way to the fulfilment of the decree? This calls for the same answer. Let us see.

The cell is the unit in all organic and structural tissues. This unit is said to be endowed by nature (?) when vitalized by the vital principle, which flows to it along the course of the efferent nerves, with the power to reproduce itself, when its work is done. The new cell thus born is to be identical with the parent cell, if the circumstances attendant are the same. Otherwise the individuality could not be maintained at all. Now, if that is true, how could evolution, goaded to action by selection, or any other adjunct, build an addition to the old? Or institute a new organ in the brain or anywhere else in the system? Even provided that evolution, aided

by selection, or its equivalent, were virile powers, and not utterly impotent fancies, as they have been shown to be. The endowment of the cell is binding, and never has been known to be violated. Bear in mind that it is the vital principle living in or occupying the organism, that builds and fashions, and gives to it its individuality, and not the organism that determines the vital principle. Here, again, evolution is stranded. It cannot escape destruction, even after granting an impossible proviso. Not I but science declares absolutely that evolution is wholly impotent, either as a controlling law or as a producing cause. Evolution is entirely inadequate to account for new organisms or new types, because it is impotent. Selection, made and enforced by a personality, as, for instance, the gardener, under domestication, has induced new varieties of the same species; but those varieties are not permanent. And, above all, it must be remembered that they have not changed the genera. The changes and variations have all been confined to boundaries already set, in the constitution of the original specimen of the species, whether animal or vegetable.

There is every reason to believe that the first representative of the genus *Homo* had just as perfect a brain as the genus now has. He came suddenly upon the scene. He had no precursors in the way of an intermediate between himself and the orang or the chimpanzee. There could have been none, as we have repeatedly and conclusively shown. Man was made Man from the beginning; he did not grow by chance from the ourang or the chimpanzee. No power but a creative power, the Creator of the universe, could know enough or have the ability to perform the act of the enlargement and improvement of the structure of the brain of Man over and above that of the orang or the chimpanzee, and adjust so perfectly the brain of each individuality to its uses. Did He make over a monkey into a Man? Indeed, it seems silly and superfluous to ask such a question, but it is made necessary by reason of the doctrine of evolution. The advocates of that doctrine do not acknowledge that there is such a thing as a Creator of the universe.

There is no architectural ability, *de novo,* in "blind nature." Everything it reproduces are copies of what has been; it cannot be otherwise. The original commission holds it rigidly in line. The vital elements of Man, male and female, when fused, reproduce Man. The vital principle of the horse reproduces a horse, and can produce nothing else; and so on through the list.

Mr. Darwin defines "nature" to be "only the aggregate action and product of many natural laws"; and laws, "the sequence of events as ascertained by us."

This indefinite, incomprehensible, intangible something, then, is the only attendant guide, aided and abetted by Mr. Darwin's specialty of nature, "selection," that supervised the initiation of, and the enforcement of, the decree that made possible the enlargement and improvement of the brain of Man over that of the orang or the chimpanzee, so as to include all the nobler qualities of mind and attributes of humanity. If such is the case, is it any wonder that Man is a weak vessel?

But Mr. Darwin, apparently not satisfied with this solution of the problem (for this I cannot blame him), offers another theory of solution. He says: "Great strides in the development of intelligence will have followed, as soon as the half-art and half-instinct of language came into use; for the continued use of language will have reacted on the brain and reproduced an inherited effect; and this will again have reacted on the improvement of the language. The largeness of the brain in Man, relative to his body, compared to the lower animals, may be attributed, in chief part, to the early use of some form of language. Without the use of some language, however imperfect, it appears doubtful whether Man's intelligence could have risen to the standard implied by his dominant position at an early period. From the fundamental difference between certain languages, some philologists have inferred that when Man first became widely diffused, he was not a speaking animal; but it may be suspected that languages, far less perfect than any now spoken, aided by gestures, might have been used, and yet have left no traces on subsequent and more highly developed tongues."

As ingenious as this theory is, it does not help him out of his unsatisfactory condition, but only helps to engulf him.

Several philologists, especially Prof. Max Müller, have lately insisted that "the use of language implies the power of forming general concepts; and that as no animals are supposed to possess this power, an impassable barrier is formed between them and Man." Mr. Darwin gets the cart before the horse in his eagerness to work out his theory. Intellect must have been the all-important necessity to the early man to enable him to invent and use any language, especially an articulate language. The idea of language is in itself a distinct concept; and the further idea that ideas and thoughts may be conveyed to others by the use of language is a very great concept. We cannot comprehend the greatness of it, when it is remembered and considered that up to the time of the invention of language, no thoughts or ideas had ever been conveyed to others; there was no such thing on this earth. We now think the inventions of Thomas A. Edison are great masterpieces of achievement, and so they are, but they are not to be compared with the invention of articulate language and its use. Without doubt, Man had to have intelligence to invent language; the invention did not produce the intelligence. Of course the use of language enabled men to communicate intelligence to each other, and undoubtedly the use of language helped to perfect the invention, by making it more voluminous and useful. Philology shows it to be a slow process and that language is being elaborated to this day.

Mr. Darwin goes through a long and very ingenious argument to show that the mind of all animals, "so far as it goes," is identically the same thing as in Man. All the difference, apparently, is "quantity," primarily, and "quality," secondarily; and the last quality was owing entirely to improvement by "natural selection." He argues that because animals are possessed of intelligence to even a limited extent, and the same intelligence, only in a lesser degree, it is evident that Man's progenitor is to be found among the lower animals. You might as well say because hogs eat corn, and chickens eat corn also,

therefore the hog is the progenitor of the chicken, or *vice versa.*

It is true that animals use the same intelligence, limitedly, that Man uses; but the reason for this is not that the two species are related in any way, but because there is but one intelligence on this earth, and that is God's intelligence.

The theory of evolution teaches that all the difference there is between the animal's brain and that of Man lies in the quantity first and quality second. The quality is all due to the action of selection, self-administered; and as the quality improved from use, the quantity increased gradually to its present size. There is in reality no difference between the brain of the monkey and that of Man, only that Man, from some cause, contracted the habit of talking, away back in his early history, and that habit enlarged the brain. It has always been supposed that it was necessary to have some brains to enable a man to talk very much. But, according to that, if the monkey had accidentally contracted the habit of talking, he might have been where Man is now; he might now be demonstrating problems in calculus, enjoying the wreath of a poet-laureate, or have occupied the presidential chair of the United States.

A curious and incomprehensible thing about this theory of evolution is exemplified in the question, How could "natural selection," *per se,* know enough to wait until Man was reached, before it launched the greater intelligence and enlarged the brain and implanted in it the different, advanced qualities of mind which Man possesses and exemplifies, of love, reverence, sympathy, etc.; in fact, all the nobler qualities of the human mind, including above all the crowning psychical endowment of Man, volition, with a monitor, to guide him in the exercise of his free will, conscience? "The moral sense which tells us what we ought to be, and the conscience which reproves us when we disobey it." Emanuel Kant graphically characterizes when he says: "Duty! wonderful thought, that workest neither by fond insinuation, flattery nor by threat, but merely by holding up thy naked law in the soul, and so extorting for thyself always rev-

erence, if not always obedience; before whom all appetites are dumb, however secretly they rebel; whence thy original?"

Does any scientist, yes, does anybody, let him be scientist or not, believe that the mere act of learning to talk, and the use of articulate language, would cause to be implanted in the brain of Man all the higher qualities of mind which characterize him? Impossible.

Indeed, it strikes me as wonderful that a human mind, as above described, should conceive of such a process as that expressed in the theory of evolution. Think of it. To start the whole train of animal life that has ever appeared on this earth from the moneron, a single cell (and they know not how they came by that), and by the inherent power stored up therein to give the impetus that shall perfect all animal life; with all the exquisitely beautiful and perfect mechanism of the organic being; without the aid of any intelligence whatever; without any external help whatever, only the guidance of nature through an imaginary law, "natural selection," or "the survival of the fittest."

This is a thousand times more wonderful than that a bud should bring forth a leaf or a rose. That is but one step in the process, one link in the chain as long as all the different forms of animal life link together. And all this without guide or architect or executive power whatsoever. Starting this immense enterprise with so limited a capital, only the "spark of life," wrapt up in that little globule of protoplastic matter. As if to say to itself, I will build myself a monument, by growing to perfection all the animals of whatsoever kind that are to inhabit this earth, with Man at the head of all.

This is where and how Mr. Darwin places his idol, otherwise "natural selection," on a par with Deity.

Now, if it were possible that this little globule of protoplastic matter had any inherent intelligence whatsoever, a mind of the most infinitesimal dimensions, or had any inherent powers whatsoever, it would have the beginning of the requirements, viz., intelligence and ability. But it has not even the beginning. Or if this so-called law of nature, "selection," had any qualifica-

tions whatsoever, of intelligence, volition, or ability to execute, there might be a shadow of reason in the theory. But as neither the cell, representing the unit of organic structure and mechanism, as the clay in the hands of the potter, nor the powers to be, set up have any qualifications whatsoever, it stands as the most unique fake in all history. But just here lies its strength. The gigantic proportions of the fake put it beyond comprehension —made it so much of a mystery that the human mind could not compass it. And so it is accepted as "profound science," when it is naught but a metaphysical hodge-podge, its principal ingredient being unparalleled audacity.

Is that little globule of protoplastic matter a machine, wound up for all time and set in motion, never to stop? When it is demonstrated that the most mighty intellect that ever appeared on this earth (save Jesus Christ) is utterly powerless in the matter, how can any sane man believe that a little globule of protoplastic matter, about 1-144,000th of an inch in diameter, could have wrapt up within itself the power and possibilities necessary to accomplish the great task set before it, and thereby demonstrated the fact that it was possessed of more power and intelligence than the most gigantic intellect ever on this globe was or is possessed of? Nonsense!

Such an infinitesimal globule of matter to have more intelligence than the perfect brain and mature mind of a Newton, a Franklin, a Webster or a Gladstone? Why, each cell in their brains had as much, at least, of intelligence as this primary cell. But in this case, from their tell, the untold multiplication of cells, with perfect organization and special endowment, had no effect whatever in enhancing the ability of the organic body. Preposterous! The Arabian Night's Entertainments are to this as the attar of roses compared to pure asafetida in point of absurdity. Yet such is the condition made necessary by the claims of the theory of evolution, viz., that, by evolution, aided by "natural selection," both of which are impotent, some power, resident in the globule of protoplastic matter, has accomplished the creation—

no, the building, the growing up of the animal world, from the moneron to Man, all in perfect order.

It would be interesting to know how "selection" would go about it to build a lung, *ab initio*. Give selection the help of another law mentioned, viz., "use and disuse," how will they go to work to perform the task? Certainly you cannot use an organ until you have one to use. The initiative, then, would rest entirely with selection, self-administered. What sane man can really believe that such is the history of the lung, with all its beautiful, symmetrical, anatomical and physiological appointments? Or who could believe such to be the history of the liver? And then, beyond all that, the endowment of that gland with the function of secreting from the blood that is poured into it a perfect digestive of certain kinds of food, is no small matter. From whence came this endowment? Just think of this infinitesimal globule of protoplastic matter, without the shadow of intelligence, or Darwin's specialty in nature, "selection," endowing and functionating other unorganized matter in two capacities—one to perpetuate the structure of the organ, the other to do its duty as a unit in the liver, in its function of secreting gall. But hold on a minute! Science has declared that matter has no intelligence. A *reductio ad absurdum.*

Why should the evolutionists prefer to foist this absurdity, and crib causation by a hair's breadth, rather than acknowledge a "First Cause"? If they allow a First Cause, a Creator, at any stage of the proceedings, it creates a suspicion that this same First Cause, the Creator, may be, and really is, the Great Actor after all. To acknowledge that there is a God mixed up in the affair at all destroys, yes, annihilates, their theory. Evolution purports to have accomplished creation without a creator. It is only another edition of Laplace's ideas. He said he found no need for such an hypothesis as a Creator, when he had written a book upon the system of the universe. If Laplace could construct the universe without a Creator, why should not Darwin build the animal world without one?

CHAPTER V

EMBRYOLOGY AND HEREDITY

Evolutionists place great stress on the embryonic resemblances of the different species. They say that the structure of the embryo is even more important for classification than that of the adult; that by this means all the great organic beings, extinct and recent, can be arranged within a few great classes. Mr. Darwin states that "at a certain early stage of the development of the embryo of the horse, it can hardly be told which it is an embryo of —an elephant, a horse, an ox, or a human being. The difficulty is so great, one may be easily mistaken for the other by even the most experienced embryologists."

Mr. Darwin accordingly takes the ground that because this is so, it is conclusive evidence that they are all relatives; all have the same blood in their veins; all are branches of the same family; and that the monkey is the progenitor of Man.

Mr. Henry Drummond very eloquently argues for the same thing. He says: "The evolutionist sees concentrated into these few months the labor and the progress of incalculable ages. Here before him is the whole stretch of time since life first dawned upon the earth; and as he watches the nascent organism climbing to its maturity he witnesses a spectacle which for strangeness and majesty stands alone in the field of biological research. What he sees is not the mere shaping or sculpturing of a Man. The human form does not begin as a human form. It begins as an animal; and at first, and for a long time to come, there is nothing wearing the remotest semblance of humanity. What meets his eye is a vast procession of lower forms of life, a succession of strange, inhuman creatures emerging from a crowd of

still stranger and still more inhuman creatures; and it is only after a prolonged and unrecognizable series of metamorphoses that they culminate in some faint likeness to the image of him who is one of the newest yet one of the oldest of created things. Hitherto we have been taught to look among the fossiliferous formations of geology for the buried lives of the earth's past. But embryology has startled the world by declaring that the ancient life of the earth is not dead. It is risen. It exists to-day in the embryos of still living things, and some of the most archaic types find again a resurrection and a life in the frame of Man himself.

"It is an amazing and almost incredible story. The proposition is not that Man begins his earthly existence in the guise of a lower animal-embryo, but that in the successive transformations of the human embryo there is reproduced before our eyes a visible, actual, physical representation of part of the life-history of the world. Human embryology is a condensed account, a recapitulation or epitome of some of the main chapters in the natural history of the world. The same processes of development which once took thousands of years for their consummation are here condensed, foreshortened, concentrated into the space of weeks. Each platform reached by the human embryo in its upward course represents the embryo of some lower animal which in some mysterious way has played a part in the pedigree of the human race, which may itself have disappeared long since from earth, but is now and forever built into the inmost being of Man. These lower animals, each at its successive stage, have stopped short in their development; Man has gone on. At each fresh advance his embryo is found abreast of some other animal embryo a little higher in its organization than the one just past. Continuing his ascent, that also is overtaken, the now very complex embryo making up to one animal-embryo after another until it has distanced all others in its series and stands alone. As the modern stem-winding watch contains the old clypsydra and all the most useful features in all the time-keepers that were ever made; as the Walter printing press contains the rude hand machine of Gutenberg,

and all the best in all the machines that followed it; as the modern locomotive of to-day contains the engine of Watt, and the locomotive of Hedley, and most of the improvements of succeeding years, so Man contains the embryonic bodies of earlier and humbler and clumsier forms of life."

Is it not indeed marvelously wonderful that an intellect that could write like that should be led so far astray from the truth, because he never in his speculations got down to the bed-rock of cause and effect? I have quoted the last sentence to show the reader how extremely materialistic and mechanical the writer is in his ideas of the construction of the animate world. With him the animal kingdom is constructed on mechanical principles alone. Such is certainly a very superficial view, because the essential part of an animal is not its mechanism, but its personality. But if the beauty and clearness of an expression could make it a truth, this story would be true indeed. But, fortunately, the beauty of linguistic expression, or the clearness of statement, has nothing whatever to do with the truth or the falsity of what is said or written. And so we pass this over as a brilliant literary triumph, but as wholly misleading and untrue in reality, save only in Mr. Drummond's picturesque imagination. Let us examine this great matter and see if the conclusion reached by him is justified by the facts; see if the verdict is justified by the evidence, or whether there is a reasonable doubt in the case.

The cell is the unit in the make-up of all organic tissue, and, in a larger sense, in the make-up of all organic life. The cell is very similar in the make-up of nature, whether animal or vegetable, only differing in form and size. There are many forms of cells, but the fundamental form, especially of the young cell, is spherical, whether animal or vegetable, varying in size from 0.005 to 0.01 of a line in diameter. These globules have a membrane surrounding them. The cell-membrane is usually transparent and colorless, mostly smooth, and so thin as to be rarely of any measurable thickness. No traces of structure can be detected in it, but it is a protein substance. The membrane of the nucleus is similar. In

the contents of most cells we usually find such substances as occur in solution in the cytoblastema, viz., water, albumen, fat, extractive matters and salts. In the cells of the secreting organs we find the special secretions of those glands, as, for instance, the liver. There are two perfectly distinct ways in which cells can be generated—they may be developed independently of each other or other cells in a plastic fluid, as protoplasmic substance; or they may be developed from pre-existing cells by multiplication; the existing cell either producing secondary cells within themselves, or multiplying by division, when the nucleus seems to be the center of development of the young cell.

The ovum is merely a nucleated cell of special endowment. That is true of all ova, of all animal life. They all present the same characteristics; in fact, they are so nearly alike that the difference can only be recognized by a high-power microscope, and then there is apparent only a variation in size. I have said that the ovum was merely a nucleated cell of "special endowment." I want to emphasize that statement. Right here is the key that would unlock all the mysteries of all the species in animal life, if we could but use it. Right here is included the whole tale of mystery. In this specially endowed cell are locked up and hidden away all the secrets of the species, perfectly safe from the intrusion of Man. If Man would penetrate to the nucleus and the nucleolus of this cell, and recognize, analyze and reveal all the secrets there hidden away, he must needs first to understand the dynamics of the spiritual world. He must be able to recognize and analyze the endowment, and must be able to estimate the possibilities of the germ-life therein hidden away. To do this, Man must be endowed with abilities and attributes on a level with the Creative power. Man, at least in his present state, cannot do this. It is away beyond his finite powers. Man can only tell what is the special endowment of the cell, this wonderful cell, after it has been joined to, and amalgamated with, or fused with, its correlated element, and thereby become vitalized, quickened into a new life and developed somewhat along the lines of endowment, so as to bring it

within the range of Man's ability to recognize and differentiate it.

This only magnifies the extreme folly of any one saying that because his finite and limited powers do not qualify him to delve into the secrets of Deity as in the cell deposited, and there to differentiate the germ-life in the cell, that it is all one and the same germ-life in all cells, all one thing; and then make that decision the test as to whether all animal life is one and the same thing or not. Or, to put it in another way, because he cannot tell anything about it until the embryo differentiates itself, he arrives at the conclusion that, or takes for granted that, there is only one endowment common to all germ-cells; which starts at the bottom of the ladder and rehearses all the past and present animal life, before it ends up finally with Man. And concludes therefore, that all animal life is one and the same thing in its beginning; that life can only start in the Moneron. The very fact that the embryo always differentiates itself, never goes wrong, ought to teach any man not joined to his idols, that all germ-life is not the same; that the endowment is specific and binding in each genus. Because the embryonic life in several species presents similar appearances, as, all placentals begin development exactly alike, so far as the mode of development is concerned, and Man is not able to tell them apart, it does not follow that all are the same, or are of one type thus far. Not at all.

Mr. Drummond says that Man does not begin as Man, but as an animal, and recapitulates all previous animal life before he becomes Man. Now, inasmuch as he cannot differentiate embryonic life, how does he know that? He does not know it at all. That is only a picturesque, but absurdly unscientific guess. It is evidently not true, as we shall show.

I submit that the fact that the human embryo always develops into a human being and nothing else; that the embryo of the horse always develops into a horse and nothing else; and so on all along the line of the genera, never going wrong in any case, is positive proof to any candid mind that, in each case, the endowment of the life-

germ was different and specific in each case. The embryo of Man does not start as an animal, else it would develop into an animal and not a human being. If the human embryo starts as an animal, how could it become human? For a man, posing as a scientist, to make such a statement is trifling; and shows plainly that he is superficial in his studies. To say that, because I do not know enough, my powers of discerning are not acute enough to differentiate germ-life or embryonic life, therefore they are all alike, they are all one and the same thing at the beginning, is absurd. Especially is this so when the sequel shows, and proves positively, that they are not at any time alike, or one and the same thing, but that each is different from the others.

In opposition to the views of those who believed in the doctrine of spontaneous generation, Mr. Harvey laid down the principle that all animals are produced from eggs; and more recent researches have fully confirmed this view, with the few possible exceptions of the gemmiparous and fissiparous animalculæ; or those animalculæ which multiply by buds, or propagate by division. These exceptional cases occur, possibly, only in very low forms of animal life; and, even in those cases, in retracing the phases of animal life, we arrive at an epoch in which the incipient animal is enclosed in an egg. Now this egg, in all cases, contains the one element of life only. It may be said to contain the dynamis of life, in its latent form, and when quickened by fusing with its correlated element the dynamis is set in motion and life is begun. It is then termed an embryo; and the modifications which this embryo undergoes before the young animal has an independent existence are included in the general term, development of the embryo.

This brings us to a point where a definition of life is desirable, if we can make or find one. Multitudinous efforts have been made to give a definition of that very common asset in the animal world, but none are satisfactory. Mr. Spencer's definition has already been given, and, for those who can fathom it, may be well enough. In following the destiny of the ovum, it is believed that the following wording expresses all the essen-

tials of a definition of life: Life is a dynamis residing latently and primarily in the ovum, which, being set in motion by the fusing of the sexual elements, in a suitable environment, acts and perpetuates itself by integration and disintegration of the molecules composing its individual, organic habitat without destroying its individuality; and is controlled and rendered effective by coordination.

Before embryology was properly studied, all animals were arranged under two heads—the oviparous, which lay eggs; and the viviparous, which bring forth their young alive. It is now known that viviparous animals are produced by eggs. The only difference in this respect being that their eggs, instead of being laid before development of the embryo, begin to undergo their early changes in the body of the mother.

The eggs originate within organs termed ovaries, peculiar to and characteristic of the female, except in those cases in which both male and female reproductive organs are associated in the same individual.

The ovaries are glandular bodies, and are usually situated in the abdominal cavity. So long as the eggs remain in the ovary they are very minute, and in this condition they are called ovarian or primitive eggs. As has been said before, these eggs are very similar if not identical in looks in all animals, being in fact merely little cells, containing yolk substance, in which is inclosed the germinative vesicle and the germinative dot. The yolk itself, with its membrane, is formed while the egg remains in the ovary; it is afterwards inclosed in another membrane which may either remain soft, or may be surrounded by calcareous deposit, as we observe in the bird's eggs.

The egg, when it has attained a certain degree of maturity, leaves the ovary. This step in the process is termed ovulation. After leaving the ovary, the eggs are either discharged from the animal, and undergo their further changes in the external world, or they continue their development within the body of the mother; in which case they become intimately united to her by the intervention of certain temporary structures, namely, the placenta and

umbilical cord. This mode of development is called gestation.

Germ-life and embryonic life, in all the different species of the animal kingdom, are amenable to the same laws. The same procedure is common to all. But that fact offers no proof that the germ-life or the embryonic life is always the same germ or embryonic life in the different species; but it does demonstrate the unity of plan.

When a boy, I was one day plowing corn on a little farm back in Ohio. The land was a little stony, and in the bright sunlight I saw the sparkle of what I thought was tiny scales of gold dotting the surface of a little stone. I picked the stone up, brushed it off clean, and looked at it a long time. The more I looked at it the more I was convinced that they were tiny specks of gold. I put the stone in my pocket carefully, and looked for more. I found several stones, on the surface of which were the same bright yellow specks. When I went home I gleefully told my father that I had found some gold stones in the cornfield. I really felt hurt when he said: "Oh, I guess not; let's see them." I produced the stones, and we looked at them. I also watched father's face, to see his expression. He looked the specimens over closely, and I imagined I could discern a credulous look. My heart palpitated with excitement, from the fancied assurance that father, too, thought the tiny yellow specks were gold. Presently he said: "I do not think it is gold, but I will tell you how you can tell whether it is gold or not. Take the stone to the drug-store and ask Dr. Tompkins to put a drop of nitric acid on it, and if it is gold it will not turn black, but will be brighter than now; but if these tiny scales turn black they are not gold." I ran to the store, only a couple of blocks away, and asked the old doctor if he would put a drop of nitric acid on the stone. "Now, what have you got?" as he looked at it. "Where did you get it?" "It's gold." He dropped a drop of acid on to the stone, and at once all the specks turned black. My heart almost stopped beating, I was so disappointed. It was only iron pyrites.

I thought because the scales were yellow and looked like gold that they were gold, but they were not. I did

not know enough to differentiate iron pyrites, in the shape of little yellow scales on the surface of a stone, from specks of gold, but the test very soon decided the question for me. Were it possible for us to apply a test to the germ in the ovum, we might decide whether the future product would be a Man or a horse. But that we cannot do. All we have to do, however, is to wait and see the product; that will decide the question with no mistake. Then I thought that all that glittered and looked like gold was gold. Maybe that is just what Mr. Drummond thought when he wrote the above quotation. But does not that show extreme short-sightedness for a scientist? Such a mistake could be pardoned in a boy, especially as his influence on society is nil; but hardly could it be pardoned in a person who poses as a scientist, and whose influence as a teacher may influence thousands to embrace a fallacy. Would anybody be justified in saying: All tiny little yellow scales which you see imbedded in the rocks, or adhering to the surface of stone, are iron pyrites at first, but later some are turned into gold by some means unknown to me. What kind of science would that be? Yet the cases are parallel.

But let us examine Mr. Drummond's statement a little closer. He would have you believe that the human embryo passes through all the different forms of animal life that have ever been on this earth, from the Moneron up to Man, the ovum, presumably, representing the Moneron. Reader, turn back and read again his wonderful statement. He says, here before him is the whole stretch of time since life first dawned upon this earth.

The human embryo is easily recognizable before or at the end of the sixth week—42 days, or 1,000 hours. It is estimated that there are about 250,000 different forms of animal life on this earth. The human embryo then would have to pass through 250,000 different forms of life in less than 1,000 hours, more than 5,952 every day; or 248 every hour; or 40 each minute, only one second and a half allowed to make the change from a rhinoceros to an elephant. Is not that going some?

The centers of ossification of the future bones in the embryonic body must have varied in number very greatly

during all these transition scenes, which only took one and a half seconds to complete. For instance, when the human embryo was a sloth it had nine cervical vertebræ. Since the dorsal vertebræ vary from eleven to twenty-three in the different animals, finally he would have to get back to twelve of the human species. The number of the lumbar vertebræ vary from two to nine in the different species; and the caudal vertebræ vary from five to forty in the different animal species, while Man has none. But besides all this there would have to be numerous other anatomical changes. When it was a fish it would have to have a swim-bladder; when it was a turkey it would have to have a crop and a gizzard; and so on, *ad infinitum,* and only one and one-half seconds allowed in which to make the change from one form to another form. Did selection do all this?

Certainly Man's common sense tells him that this fancy tale is all fiction. There is not a word of truth in it. What force or power could operate to remove the supernumerary, miniature bones and make the other anatomical changes? It is simply nonsense—the absurdity of absurdities. And yet it is called Science.

The human embryo starts as such, and is never, at any time or stage of its existence, anything else than a human embryo. As a matter of course, in the very early stages of embryonic life, it does not resemble the human form in its perfected stage. Neither does the bud of the rose resemble the full-blown rose, yet it is a miniature rose and nothing else. Such is the *modus operandi* that it pleased the Creator to put in operation for the propagation and the perpetuation of the species on this earth. It is complete in all its parts and workings, and beyond the ken of the human mind.

The exercise of Man's fertile imagination does not affect the truth in reality, but it serves to cover up and prevent a correct understanding of the truth. The real truth is hidden from sight, and fiction takes its place for a time. This is such a time, as the result of the promulgation of the fictitious doctrine of "the evolution of the species."

The nucleated cell of special endowment is constructed

in nature's own laboratory, the ovary. Such a laboratory is located in the body of each female specimen of each genus, in the animal kingdom; if she be a true representative of the genus. This special endowment takes place in this laboratory also. It is this special endowment that makes the cell an ovum and not a common cell; and being an ovum, it is a vital element. The special endowment consists in a commission, so to speak, to this vital element, to unite and fuse with the male vital element, the spermatozoon, and proceed to form a true representative of the same genus, no other. This fusing of the two vital elements produces a vital spark, which when lighted up constitutes the vital principle of the new being. Thus two correlated vital elements united have become fused into one vital principle, which, after having built its new tenement, constitutes a new being. This fusing of the two vital elements is synonymous with impregnation; and is accomplished by the spermatozoon, the male vital element, piercing the cell-membrane of this specially endowed cell, the ovum, the female vital element, and ensconcing himself in the nucleolus or the vitellus of the ovum; when circumstanced by suitable environments. Immediately this new vital principle, this new life, goes to work to carry out its commission by endowment from both sides of the house; and in a few moments both vital elements have lost their identity in the new life thus created. Now, as soon as these two correlated elements have fused in the new cell, this same cell furnishes the beginning of the new dwelling; and it now contains potentially all that can be developed out of it or from it. This cell now contains all the embryonic elements which afterward develop into brain, bone, skin, fat, muscle, nerve and organ; after a certain pattern contained in the specifications of its commission. The architecture of the future body is contained in this cell; and the moment the vital spark is lighted up, the latent energy now transformed into the new vital principle of a new being, it goes to work to build a new tenement for its own habitation—"every one after its kind." Thus the vital principle of the genus *Homo* builds a habitation like unto the body of the genus *Homo,* and no other.

The fusing of the two vital elements usually takes place in the fallopian tube, and within a few hours a number of secondary cells are formed within the ovum, which is already beginning to enlarge, by a process of cleavage or segmentation, arranging themselves around the nucleolus, which by some is called the "embryonic spot." This first microscopic spot, developed in the ovum, is the cell which shortly develops into the bulb of the medulla oblongata, the center of all animal life; and from which all the future development of the embryo proceeds, and through which every cell to be developed receives the impetus of the vital principle engaged in the task of building for itself a new temple. This spot seems to be the throne of the vital principle through life. Throughout the life of the body every cell receives its life-impetus through this center of animal life. This is common to all forms of animal life. Do you think it came about by chance?

During the first week the ovum remains in the fallopian tube, slowly moving downwards. Meanwhile keeping up the process of segmentation; this stage is known as "segmentation of the ovum." When first entering the tube the ovum measures about 1-125th of an inch, but in its downward passage through the fallopian tube it increases in size to from 1-50th to 1-25th of an inch in diameter.

At about the eighth day, when the ovum reaches the womb and finds a lodgment, by means of the villi thrown out upon the endometrium, it is then called the "embryo." A portion of the mucosa grows up around the ovum or embryo, which is called the decidua reflexa. That portion of the mucous membrane of the womb upon which the ovum attaches itself is known as the decidua serotina, and the remaining portion of the mucous membrane constitutes the decidua vera.

At twelve to fourteen days the ovum is a rounded, somewhat flattened sac from three to five millimeters in diameter, smooth, except at the equatorial zone, where a number of short villi make their appearance. The entire ovum now measures about 1-4th of an inch, and the embryo about 1-12th of an inch.

At the end of the third week the entire ovum is covered with villi, which now begin to branch and increase in length. The embryo measures about 1-6th of an inch, and presents as characteristic features: a strongly curved back, primary divisions of brain, appearance of visceral arches, rudiments of primitive ocular and auditory vesicles. The primary circulation is established; the alimentary canal presents a straight tube. Growth and development have pushed out on all sides of the common center of life. In the *Vertebrata,* in which the spinal cord is common to all, the cord at first develops faster than the upper structures, but the cerebellum rapidly develops into an enlarged bulb at the cephalic end of the embryo. Above this the mid-brain protrudes as another bulb, and in front of this the fore-brain is overhanging.

Under a magnifying glass, the embryo now has the shape of a lobulated bulb with a segmented tail. This segmented appearance is merely a series of constrictions in the cord; there are thirty-two constrictions, to mark the future vertebræ, or the nerve-centers corresponding to the vertebræ. The embryo is now curved upon itself in the shape of a semi-circle. At the sides of the middle lobe there is a dark spot on either side which mark the future eyes. A little back of and below these spots, at the bases of the sides of the cerebellum, are two spots, one on either side, the auditory vesicles, which are to be the future ears.

As yet there is no thorax or abdomen; nothing but the spinal cord, and there are no visceræ. From about the middle of this segmented tail there has developed a system of vessels a few inches long and terminating in a globe larger than the embryo itself, which is called the umbilical vesicle, which furnishes the nutriment of the embryo. In front of the bulb marking the cerebellum, and under the fore-brain, are a series of five incomplete arches, springing laterally and meeting eventually at the median line in front. Each arch is separate from the other. When the embryo is fully developed the upper one of these arches will form the upper jaw; the second one will form the lower jaw; between these two, when the two sides of the arches have united, is a five-sided

opening, the future mouth and lips. The other three arches eventually form the neck, over the roots of the tongue and larynx. These arches are called branchial arches, from their fancied resemblance to the arches in the fish that support the gills. They have also been called "gill-slits."

Evolutionists insist that these arches are the vestiges of the fish in Man, and that the presence of these arches in the human embryo shows the evolution of Man through the fish. According to Mr. Drummond, when these arches appear in the human embryo, from the second to the fourth week of gestation (thus lasting two weeks and not only a second and a half, as we have seen the time allowed), the embryo is a fish and not a human being in embryo at all. These arches form no part of the respiratory organs in the future Man, as the branchial arches do in the fish. Mr. Drummond also states that the human ear is built from the fish's gills. The fact is that the auditory vesicles are located and appear before the arches begin to spring, and the vesicles are located back of where the arches spring from. These arches have no more to do with the formation of the human ear than the Czar of Russia has to do with the government of the United States. Common sense says these "gill-slits" are the result of natural development; they are a part of the specifications in the binding instructions for the building of the structures of the jaws and mouth. Really, how would an arch be sprung, if not from the bases of the sides of the arch? It cannot be built in any other way. Was the Creator so limited in resources that he had to fall back on the fish's gills to finish off a Man's mouth? The branchial arches are not an hereditary asset from the body of the fish, because the fish is the progenitor of Man away back in the line; but the simple springing of an arch, as there was a chasm to bridge, and this series of five arches successfully bridges the chasm; thereby forming the upper and lower jaws, which are both complete arches, and the superficial structures over the roots of the tongue and larynx.

The fish does have the "gill-slits," but why imagine that fact has anything to do with the branchial arches in the

human embryo? This is the product of the flighty imagination of the man who wrote "The Vestiges," but who was ashamed to put his name to the production, in an attempt to bolster up a bankrupt cause by a senseless assertion of an imaginary condition. And all made necessary by the doctrine of evolution (then in embryo), and suggested by some anatomist in the past, who in describing the anatomy of this particular region in the embryo gave them the name branchial arches because in his mind's eye they somewhat resembled the branchiæ of the fish.

I once knew a lady, a maiden lady, pretty well along in years, and a great lover of tea, and who at times had her ideation influenced by hallucinations of various kinds, but who at one particular time imagined that her body was a teapot. She put her right hand to her side and said: "There is the handle"; and then, holding the left hand out from the body, with the fingers pointing downwards: "There is the spout. Don't you see the tea pouring from it?" This was no more of a perversion of normal ideation than to imagine that the branchial arches in the human embryo are the vestiges of the old fish nature clinging to the flesh and being reproduced in the human being.

It is claimed that there are something like seventy instances in Man's anatomy where "vestiges" of some animal or other that had figured in the line of descent had left their mark in Man's body; but they are all of the same imaginary stamp.

The only anatomical part in the human body seriously to be considered, at first thought, with a possibility of its being a vestige of some previous form of animal life is the appendix *vermiformis,* it having survived all attempts of the evolutionary scheme to erase it. Evolutionists say this worm-like appendage is the rudimentary remains of the elongated cæcum of the herbivorous animals, in which this portion of the intestinal canal serves as a reservoir for the elaboration and absorption of food, the atrophied portion only now remaining.

A careful study of the claims of evolution will show that Man had no herbivorous animals, such as ruminants, as progenitors back in the evolutionary line. It is claimed by Mr. Darwin that Man came up through the mollusks,

ganoids, amphibians, reptiles and birds. And then the bird again became an animal, and the descent continued on through the opossum, stenops, semnopythecus, etc., up to Man. While others leave out the bird proposition altogether and make the line from the *Amphioxis,* lamprey, amblystoma, iguana, opossum, stenops, semnopythecus, gorilla, gibbon, australian, civili—the split coming a few removes from the first specimen of the vertebrates. Quite a different route from that of the herbivorous, ruminating quadrupeds. So that the appendix *vermiformis* could not have been the vestige of some previous form of a ruminant animal life, as claimed by the anonymous author of "The Vestiges."

The physiology of the appendix *vermiformis* is unknown. It has been suggested or conjectured, but not proven, that it may secrete a lubricant for the stimulation of the cæcum and colon, under very uncertain circumstances, as it is provided with a sphincter muscle at its opening into the cæcum, and has peristaltic action; however, it is found that those having had the appendix removed get along quite well without it.

It is entirely safe to say that nobody knows what its use is, or why Man was made with this apparently useless appendage. Its presence may possibly be explained by saying that Man, in his early history and life, was a vegetarian, and had use for the part at that time. His food was then entirely different from what it is now, at any rate. It is practically certain that, in his early history, Man did not cook his food, because he did not know enough to build a fire for centuries upon centuries, as we are told by evolutionists. For anything we know he may have eaten grass at first, though it is hardly probable. [From a biblical account, Man could do so, and not only live but flourish, as Nebuchadnezzer did for seven years, and regained his health and reason by so doing. Surely this is as reasonable a solution of the question as the building of the human ear out of the fish's gills!]

It is a fact that the early embryonic life in all placental animals, if not indeed all *Vertebrata,* shows marked resemblances; the differences are not capable of being discerned by Man's eyes, or even by the aid of the micro-

scope; yet reason tells us that they are essentially different, else why should they be so different in mature life? They may and do look alike, for a time, to Man's senses, but they are not alike in the essential life. In the stage of "segmentation of the ovum," they look alike because that process is carried on by a law which applies to all forms of life amenable to that law, viz., that one cell divides into two, two into four, four into eight, eight into sixteen, sixteen into thirty-two, thirty-two into sixty-four, and so on indefinitely; and the cells themselves look alike also. Soon, however, the differences begin to be apparent —the vital principle overseeing the work differentiates the product every time.

At the fourth week the entire ovum is about the size of a pigeon's egg, measuring about three-quarters of an inch in diameter, and weighing about forty grains. The embryo measures about one-third of an inch in length, and resembles a thick, soft worm curled up. The head and "tail" meet; the back is a circle. The eyes are more plainly marked; the limbs are indicated by two pairs of bud-like processes. The so-called "caudal extremity" projects as a free tail; and upon the back, on each side of the median line, are mapped out the vertebræ, a series of quadrilateral areas. When the lower limbs are developed this so-called caudal extremity, which evolutionists say is proof that Man had a tailed ancestor, is all there still; it is not absorbed, but is built into the structures and concealed by the formation of the hips. The so-called tail is there just the same, but the superficial structures have concealed it from view.

At the fifth week the embryo measures about two inches long, and is contained in the chorionic vesicle, of about forty meters in diameter.

Up to the sixth week the term embryo has been used to designate the human offspring. After the sixth week the name fœtus is applied to it, as the form is distinctly human. It is not necessary to my purpose to follow the development of the embryo further, only to say that, from now on to the close of the placental life of the embryo the changes are only those of perfecting the organism to its maturity. This miniature life has been produced by the

operation of a definite law; and in the evolution of the embryo from a single cell to the perfected organism (which is true evolution), it was all accomplished by virtue of the human vital principle; quickened by the fusing of the two correlated vital elements of the genus *Homo.*

In treating of embryology, I have not sought to be very critically minute and elaborate of details, or technical in the terms used; neither have I attempted to note all the changes taking place in the embryonic life; stages have been noted, being more comprehensive, more than changes; as it would be impossible to note all the changes taking place in embryonic life.

Now, if Prof. Huxley could say that, because the human embryo closely resembles the embryos of the lower animals; so closely indeed that Man is incapable of differentiating them; and that this one fact alone convinces him that Man must look for his progenitor among the lower animals, I can say: Because the vital elements, of any species, when fused will produce only the vital principle of the same, and only the same, as that of the species from which the vital elements came, it is impossible that the progenitor of Man could have been one of the lower animals. It is not only an improbability, but it is an impossibility. Yes, I can say: This being absolutely the case, there never was an intermediate form of life on this earth; and that change, of what we call genera, by natural descent, is also an impossibility. Then there never was a *Pythecanthropus erectus* on this earth, save only as it existed in Dr. Haeckel's imaginative brain. Therefore it is plain that the progenitor of Man could not have been an animal in the personality of the chimpanzee or the gorilla, one of which is the hypothecated progenitor of the hypothecated *Pythecanthropus erectus,* the "missing link."

Neither Man nor any form of animal life had any progenitor but the Creator, Almighty God. None other could construct such a plan and put it into execution, because of lack of jurisdiction.

This endowment of the vital elements in nature's own laboratory, each genera having its own special form of laboratory and endowment, is a continuation by a law, by

successive endowments, from the first endowment by the Creator direct, special to each separate genus.

It would be just as impossible for the ovum and the spermatozoon, the two vital elements that fuse and cause a new life, to unite and cause the new vital principle of one genus to come into being, to build a tenement for another species, as it would be for the coral to build a tenement for itself in the shape or likeness of a turtle's shell. Nothing can be evolved from that new life, whatsoever it be, more or less, or different from the endowment it has received from its progenitors. If the progenitors be animals, the commission given to the new life will be to build a temple in all essential features like unto the temple that the progenitors dwelt in when they caused the two vital elements to come together, and by fusing caused the new vital principle of the new life.

Pigeons could not commission a new vital principle to build a residence temple like unto that in which the eagle dwells. "Every species shall bring forth of its kind only." For that reason, Mr. Darwin could raise nothing but pigeons from pigeons. Different genera are not fertile to or with each other when put together. It would be impossible, then, that one genus could be the progenitor of another genus. Each genus has a vital principle peculiar to itself that is entirely separate and distinct from all others. The vital elements, which fuse and cause a new vital principle to blaze up, are just as peculiar to each genus. This, I take it, is the reason why two separate and distinct species cannot unite for procreation; because the two vital elements are not correlated, they will not fuse in order to produce a new vital principle.

This is no fancy tale, but is in perfect harmony with all nature. From this it must be perfectly plain, and geology confirms us in saying, that there never was such a thing on this earth as an intermediate, transitional form of life. On the contrary, geology shows plainly that each species came suddenly on the scene, evidently the result of a new and separate creation by a competent creative power.

The very fact that each vital principle or life-force pursues the same plans for procreation, works along the

same general lines, after the same manner, demonstrates the unity of authorship. And the foregoing demonstrates that there must have been a separate creation for each species, if that term is used in the place of genus. It is very true that, for a time, the product of one vital principle closely resembles the product of another vital principle; but the further fact that they always differentiate themselves, never get into a mix-up, shows beyond all doubt that a separate vital principle is at work in each embryonic form—a separate and specific endowment for each genus, by transmission from its progenitors. Now this act of endowment constitutes a miracle. No man can do it, nor tell how it is done. It is the act of a supernatural power and an adequate cause. It is inconceivable by the human mind, that life, in any of the organic forms of creation, is actually created by sexuality or sex-passion. The creative force of the vital principle seems to be something utterly and entirely transcending conscious life, and sex is but the instrument by which it is made manifest.

The Creator endowed the first pair with power, and put into their bodies the special laboratories in which to construct those vital elements—sexual elements—each one separate and distinct from the other, but so correlated in the same genus that, when they come in contact with each other, in a suitable environment, they fuse and cause a new vital principle to blaze up. And then to transmit to the progeny this same power—no more, no less. Each can transmit that which it has to transmit, viz., that which it received when the first pair came from the hands of the Creator.

Mr. Drummond says: "When the first cell started that was to be Man in the future, the difference between that cell and the cell that was eventually to be an elephant could not be distinguished by a microscope." Thus stating in effect that Man really started, in the Moneron, as man, but for some unaccountable reason he must be clothed in the garb and form of all the lower orders of animal life, some time during his rise, originally, to the state of Man; but since having arrived at the estate of Man he thinks this entire transition scene of 250,000

changes into the different forms of life takes place in the embryonic stage of gestation. Now this unique doctrine injects an entirely new theory into the arena of discussion. This exhibits another phase of evolution, peculiar to Mr. Drummond alone. The difficulty with this theory would seem to be that every animal would have to have a cell stamped with his image upon it as a starting, if Man had such cell, and the elephant also. Yet all would float along in the same common stream of life, only stopping off when each one's station was reached. Then each species would be produced by the selfsame cell that originally started to be Man, eventually. Then each cell would produce all the species; and all the cells of the 250,000 species would produce each. This would require as many distinct and separate yet parallel lines as there are genera, all coming up side by side, intermingling, amalgamating and mixing *ad libitum* as they came along up the common highway of life. If such had been the case, would we have such a thing as genera to-day? Would there not be, instead of well-marked genera, a lot of nondescripts containing the blood of every known brute? Does not the stringency in the laws of nature make this an impossible theory? A very curious and striking lapse in his theory is the total absence of any causation whatever. He is not as consistent as Mr. Darwin, who sets up an idol in the name of "selection," as the causative factor in his theory.

Let us next consider heredity.

We have heard a great deal about heredity as an element in evolution—as a necessary element in the process of the evolution of the species. Dr. Haeckel says: "If we cannot have progressive heredity and transmutation, our theory is a failure." Mention has been made of the incongruence of these two influences, working contemporaneously on the helpless embryo. We have also relegated transmutation to the junk pile, as a relic of the superstitions of ancient Egypt. But suppose that transmutation was or is a reality—what could heredity do with transmutation tagging along after it?

A short but comprehensive definition of heredity would be: The fact of transmission of physical or mental quali-

ties from ancestor to offspring. Or perhaps a more succinct definition is: The tendency which there is in each animal to resemble its parents. In Man this tendency is recognized in the mental sphere, as well as in the physical body.

Is that anything more or additional than the function given to the vital principle? Perhaps the definitions above given are not comprehensive enough or specific enough. It is possible that the element we call heredity may influence the vital principle, and thereby make specific what was before general. For instance: A father has web-fingers; he was born with them through some accidental slip of nature. It might first have occurred generations back in the line. Now the progeny are liable to have web-fingers; not only liable, but are almost sure to have web-fingers, if the prepotency is on his side of the house; but if the prepotency is on the other side of the house, the progeny may not have, probably will not have, web-fingers. Just so with any peculiarity of structure or temperament *that is born with the child;* they are liable to be transmitted to the progeny of that child. Heredity, then, is but supplementary to the vital principle, and not the supreme power. Again, if the web-fingers had been caused by, or were the result of, an accident, such as a severe burn, there is no liability of the progeny having web-fingers. In the latter case the web-fingers supervened the making up of the personality; were not caused by the action of the vital principle, but by the carelessness of the patient. They were not included in the endowment, and will not be transmitted to the progeny. From this it will be seen that heredity, in the first instance, supplemented the vital principle, because the web-fingers were born with the child, and therefore additional specifications were a part of the commission. A man might have his leg cut off by accident or otherwise, but heredity would not step in and cut off the leg of this man's progeny.

Is this a true interpretation of what we call the laws of heredity? If so, it only strengthens our position, and demonstrates to a nicety the proposition first advanced by Nussbaum and afterwards elaborated by Weissman,

viz.: "The whole nature of the animal or plant depends upon the germinal substance (the vital elements), and that the resemblance of the offspring to the parent is due to every gonoblast containing some germinal matter." In other words, that every atom or granule contained in the vitellus has been vitalized by the fusing of the vital elements of the parents, so that all the possible energy stored up in the ovum was liberated and had a part in perfecting the vital principle.

Now this is entirely different from Darwin's philosophy of pangenesis, which is derived from De Vries' theory of intracellular pangenesis, which holds that: "The nuclear substance of the germ-plasm is composed of minute particles, pangenes, not cells, but the bearers of the properties of the cells. There are also in the nucleus nuclear rods, called idants and chromatin rods, which are built up of a series of ancestral plasms, called ids, each representing an individuality." In plain language, this philosophy of pangenesis holds that each individual cell, whether it be a germ-cell or a somatic cell (Kolliker, it is said, has demonstrated that there is no difference between a germ-cell and a somatic cell), generates and contains its own vitality, and gives off gemules that are capable of reproducing their kind, by transmission of these gemules to the progeny.

This philosophy of pangenesis makes the cell, somatic as well as germ, the "Master Builder" and the source of life. It denies the existence of a vital principle, and asserts that life is made up of the synthetic contributions from the life that exists independently in each cell: whereas Nussbaum's philosophy makes the vital principal the "Master Builder" and the source of life, each cell being vitalized by the vital principle; and so, when the vital principle ceases to act, death results. The one theory would have the bodily form the all-potent factor in furnishing and fashioning life; the other philosophy holds that the vital principle is the life and fashions the bodily form.

Which is the more reasonable of the two philosophies? Which element in the construction of animal life and form has the priority—the cell, or the life which is the

vital principle? Is it true that the cell, called the ovum, was there before the fusing of the sexual elements took place, which fusing gave birth to the new vital principle or the new life? But this cell, the ovum, is one of the vital elements which go to make up the new vital principle, and it could do nothing in itself, perfectly impotent while alone, or until it is fused with its correlated element. Then, and not till then, was the first act performed in the formation of the new being. And what was that first act? The fusing of the sexual elements caused the vital principle, as a spark, to be lighted up, which constitutes the new life. Then, at once, the constructive process begins, and not till then. Just as soon as the vital spark is lighted up, the new vital principle exists, before a single cell of the embryo is constructed. What power on this earth but the vital principle could construct the first cell? There is but one answer: There is no other power employed, neither can there be. And if this vital principle constructed the first cell, it also constructed every successive cell, until the last one of the organism was finished. Where, then, is there any grounds for the theory of pangenesis? It is as groundles as the theory of evolution.

When the vital spark is lighted up, the ovum has fulfilled its destiny, so far as function is concerned; but its material component parts furnish sustenance for the embryo for a brief interval of time, when it perishes forever. All the future development of the embryo is dependent primarily upon the vital principle. In the new life the vital principle has the decided priority, and was the causative factor of the development; and by virtue of its potency, the new life continues to exist. The vital principle is the "Master Builder" of the cell. Hence we say the vital principle constructs the bodily form, and not the bodily form the life of that form.

Because of this logical conclusion, it is not only fantastically imaginative, but unscientific to claim that the embryo passes through all the lower forms of animal life during its primary developmental period. According to that theory, the embryo of the genus *Homo* is a fish one moment, the next it is a reptile, the next it is a

bird; and so on through the list of imaginary evolutionary progenitors. Then, if this human embryo should be lost during one of these transitional stages, it would be only a fish, a reptile, or a bird, and not a human soul at all. Shocking! And yet, such nonsense is called science by some people. The laws relative to infanticide recognize no such fallacy.

To say the least, it is astonishing that educated men should cater to or advance such fictitious creations, purely imaginary, and pass them off as scientific deductions. The scientific fact is that when the two vital elements, two correlated vital elements, whether they be human or animal, fuse and kindle a new vital principle, a new being is conceived; and if it be the human vital elements that fuse, a new soul is conceived. It is a miniature human being. It is a human being just as much the first minute as it will be at the end of nine months, or the end of gestation. The vital principle of the genus *Homo* never developed any other than a human being at any time or stage of development.

The vital principle of the genus is the agent to build a temple like unto the one in which the vital elements were constructed, and which, when fused, kindled the new vital principle, which, in its entirety, constitutes the new being, the body being only its habitation. One genus cannot construct a vital element which will fuse with a vital element of another genus and thereby produce a vital principle, as stated before.

If any man thinks this is theory only, he can test it by all the known facts of nature. It is suggested that he turn on the arc-light of the most severe tests of natural history. This is no mere theory; it is the actual and verified truth, the naked facts of the case, as substantiated by five thousand years of written history, and we know not how many years of unwritten history, and is in harmony with all nature. There is no known exception.

It cannot be denied that the theory of pangenesis is quite popular to-day. Many of our M.D.'s and naturalists, and even D.D.'s, hold to that theory, because it seems to be a necessary accompaniment to the Darwinian theory

of evolution. The heresy has taken root, as one heresy nearly always gives rise to another heresy, to bolster up the first.

Prof. Huxley says: "Bichat rendered a solid service to physiological progress by insisting upon the fact (?) that what we call life, in one of the higher animals, is not an individual unitary archeus dominating, from its central seat, the parts of the organism, but a compound result of the synthesis of the separate lives of those parts."

"All animals are assemblages of different organs, each of which performs its functions and concurs, after a fashion, in the preservation of the whole. They are so many special machines in the general machine which constitutes the individual. But each of these machines is itself compounded of many tissues, which in truth constitutes the elements of those organs."

No fault whatever is to be found with the last proposition; it states an anatomical and physiological fact. But the proposition that Bichat insisted on as a fact—when he said that what we call life in the higher animals is a compound result of the synthesis of the separate lives of the parts—will bear investigation and discussion. This is a plain statement of the pangenetic theory of life. At best it is only partially true, and, as a whole, it is misleading and false, as we shall see.

Prof. Huxley continues to say: "The proposition of Descartes that the body of a living man is a machine, the actions of which are explicable by the known laws of matter and motion, is unquestionably true. But it is also true that the living body is a synthesis of innumerable physiological elements, each of which may be described in Wolff's words as a fluid possessed of a 'vis essentialis' and 'solidescibilitas'; or, in modern phrase, as protoplasm susceptible of structural metamorphosis and functional metabolism; and that the only machinery, in the precise sense in which the Cartesian school understood mechanism, is that which co-ordinates and regulates these physiological units into an organic whole."

Prof. Huxley here acknowledges the presence of a "vis essentialis." What is that? It is the essential force or

power; it is exactly the same thing as the vital principle, the essential force. He never says a word more about it, but dwells on the "solidescibilitas," a material substance capable of being molded into shape—by what? By this "vis essentialis," which is the vital force or vital principle, and is the essential thing in the proceeding. In the next breath, however, he does away with the essential force altogether, and pleads that the living body is a synthesis of innumerable physiological elements, from which the life of the body is furnished. Why call it the "vis essentialis," if it is not the essential thing in the *living* body? If the "vis essentialis" is not the essential of life, pray tell me what force it is that operates to produce the synthesis, if synthesis there be? You certainly cannot look for the effect until after the essential cause has acted. After the machine is started, then the innumerable physiological elements contribute and concur in prolonging the action of the machine; not by furnishing motor power, but by furnishing the products necessary for the metabolic process, in the preparation of a proper fuel for the "vis essentialis" to use in the repair of waste. Now, the great question is, what started the machine to running? It must have been this "vis essentialis," or else it is not the essential force. It is well named "vis essentialis," because it is the essential thing in the living body—it is not found in the dead body.

Now read again our definition of life and compare it with this "vis essentialis." Life is a dynamis residing latently and primarily in the ovum, which, being set in motion by the fusing of the sexual elements, in a suitable environment, acts and perpetuates itself by integration and disintegration of the molecules composing its individual, organic habitat, without destroying its individuality; and is controlled and rendered effective by coördination.

We have shown conclusively in these pages that this element, life, or the vital principle, is the first element appearing in the new embryo or new being. What synthesis was there previous to this? If synthesis cannot produce life, it cannot prolong it. Can you call the coming together of the sexual elements a synthesis? It is simply and only a coincidence.

The body of a living man is a great, complex machine, composed of several complex machines, and run by this "vis essentialis." This motor power may be perpetuated or renewed from time to time by proper fuel which we call food. The physiological action of the different organs, machines in the great machine, furnishes the necessary solvents to reduce the "solidescibilitas," the food, into proper form for its use. Reciprocity is the principle in the government. It takes all the sub-machines to make the one great machine; but the great machine was started running, and continued running by the "vis essentialis," or vital principle.

Prof. Huxley further illustrates by saying: "In fact, the body is a machine of the nature of an army, not of that of a watch or a hydraulic apparatus. Of this army each cell is a soldier; an organ, a brigade; the central nervous system, headquarters and field telegraph; the alimentary and circulatory systems, the commissariat. The losses are made good by recruits born in camp, and the life of the individual is a campaign, conducted successfully for a number of years, but with certain defeat in the long run."

The simile is pleasing, but not perfect; it is only superficially true. However, let us follow it and see what there is in it for us. The army would be of no effect if it did not have a commander. If each individual unit was left to itself, no concerted action would result, so that a commander is an actual necessity. Where does the authority of the army come from? From the state sending out the army. Then, as an army, that body can only be maintained and used by virtue of the authority of the state, executed by the commander. Say the commander has divided his army into brigades, regiments and companies, all having different duties to perform, each division being commissioned to do certain work. They all move at his command. He is the "archeus enthroned" of the army—metaphorically, the life of the army. If the commander is an impotent man, a vacillating man of little motor force, little execution will result, and the army may disintegrate and cease to be an effective force. Or if any division of the army fails

to do its duty, the whole army is thrown into confusion and rendered liable to instant defeat.

Just so with life in the animal body. There is a general commanding officer, the "vis essentialis," or vital principle; and the cell, representing the individual soldier, moves by his command, *i.e.,* his stimulus. Each organ, representing a squad or a brigade, has its special duty to perform, because of its endowment. The functional activity of all the organs of the body is due to the stimulus received from the central nervous system. If each squad (organ) does its full duty, the army will be active and robust, full of life; but if one vital organ fails to do its duty, the whole system (army) is thrown into confusion and rendered liable to instant defeat. So that, in turn, these organs do help to support life, not because of their contribution of any portion of this "vis essentialis," or vital principle, but because the effect of the accomplishment of their duty is to produce a substance that contributes directly to the sustenance of life by completing metabolism, and furnishing a proper "solidescibilitas," thereby keeping the central nervous system, the commander, in full vigor. That's their duty; but they can do nothing without the stimulus of the commander, much less furnish a contribution to the life-force or the "vis essentialis." They are the servant and not the master of ceremonies. You may cut off a man's legs and arms, and by so doing remove a large number of soldiers (cells), but the man still lives. But penetrate a certain spot in the medulla oblongata with a needle-point, and life will go out like a flash. Do not cut off his arms and legs, but with a knife sever the nervous trunks that supply this essential force to the vital organs, and see how quickly they will perish forever, because they are cut off from the source of their life; but the man still lives, and will continue to live until this life-force is dethroned. So that life in the animal body is, after all, an "individual archeus enthroned," as much so as the commander of the army. And the life goes out when that archeus is dethroned, or ceases to act.

The simile is not perfect because, with an army, all action is without, and is directed toward destroying the

enemy; whereas, in the animal body composed of cells, life is struggling to conserve its own forces. All action is within, and instead of plying all its energy to destroy the enemy, each cell or aggregation of cells do their life-work by preserving and conserving the organism as a whole, all being stimulated to action by this "vis essentialis," the "individual archeus enthroned."

The simile is not perfect because each soldier in the army, representing a cell in the body, has a battery of his own that supplies him with motor force. In that sense he is a sovereign. He is not dependent upon the commander for his life-force that actuates his bodily functions, but only as an integer in the movement of the army; his commander may die and yet the soldier live. Not so with the cell; when the commander dies, the cell dies also. Consequently, the soldier does not stand in the same relation to the army that the cell does to the body. The soldier is commanded to do a certain duty; he executes the order by virtue of the exercise of his own life-force, and not the life-force communicated to him by the commander. The cell performs its duty by virtue of the life-force, or the "vis essentialis" supplied to it by and through the central nervous system; in the central station of which this archeus is enthroned, and is the source of all motor power.

This view is sustained by physiological research and experiment. The following quotation from "Kirkes' Handbook of Physiology" establishes the proposition that life in the animal body has a central location, a central seat, which if disturbed by shock or compression, or wounded, results in death of the animal:

"It has been proved by repeated experiments on the lower animals that the entire brain may be gradually cut away in successive portions, and yet life may continue for a considerable time, the respiratory movements being uninterrupted. Life may also continue when the spinal cord is cut away in successive portions from below upwards as high as the point of the origin of the phrenic nerve. In amphibia, the brain has been all removed from above, and the cord, as far as the bulb, from below; and so long as this remains intact, respiration and

life are maintained. But if, in any animal, the bulb is wounded, particularly if it is wounded in its central part, opposite the origin of the vagi, the respiratory movements cease, and the animal dies, asphyxiated. And this effect ensues even when all parts of the nervous system, except the bulb, are left intact.

"Injury and disease in men prove the same as experiments on animals. Numerous instances are reported in which injury to the bulb has produced instantaneous death; and indeed it is through injury of it, or of the part of the cord connecting it with the origin of the phrenic nerve, that death is commonly produced in fractures attended by sudden displacement of the upper cervical vertebræ."

Prof. Kirkes is a high authority on physiology, and no man has ever challenged the truthfulness of the above quotation. Thus it appears a well-established fact that life in the higher animals is an individual, unitary archeus dominating, from its central seat, all parts of the organism. If life is not of central origin, essentially an archeus dominating from its central seat all parts of the organism, but a compound result of the synthesis of the separate lives of the several parts, why should it cease to be? Why should it go out when a certain central portion of the bulb is injured?

Now, in view of the demonstrated fact that life is an archeus enthroned in a central seat, and is not a compound result of the synthesis of the separate lives of different parts of the animal body, in what sense did Bichat render a solid service to physiological progress by insisting (not proving his proposition at all, mark you) that what we call life in one of the higher animals is not an archeus enthroned in a central seat, etc.? Is it a possibility to render a solid service to any form of scientific research by insisting upon a proposition that is at variance with the truth? Indeed, the very opposite of the truth, as proven by numerous experiments, as Prof. Kirkes says it has. Doubtless both Bichat and Prof. Huxley belong to that class of scientists who have endeavored to reduce all physiological causation to a set of material conditions, maintaining that life depends en-

tirely on organization, and that the hypothesis of a vital principle is consequently unnecessary and unphilosophical. Descartes belonged to another school, who have recognized the physical and chemical agencies in the living body, and have maintained that vital action is but another and peculiar manifestation of heat, mechanical power, chemical affinity, and the like, and have thus attempted to break down the barriers between organic and inorganic creation, making it appear that the one is the outgrowth of the other. This is the real key to the situation; their theory of life is the outgrowth from their belief in evolution, accounting for life in the animal kingdom by chance or spontaneous generation, instead of a creation by a Creator.

Organization is entirely insufficient to account for life, else how could you kill a man by shooting him? And immediately after death, we may have the organization in all perfection; and when there is but the one process which continues, viz., decay. If organization accounts for life in the body, an organic being could never die, so long as the organic form is maintained. If organization accounts for life in the organic body, what power, force or process builds the embryo from the single cell, the ovum, to the completed organic being?

During the history of the world, there have been many theories advanced as to what constituted life in the animal world; but mortal man has never yet been able to define it satisfactorily. It would seem actually necessary, however, that there must be something that goes before organization, else we could not have organization. So that there is another element additional to organization in order to have life. This other element, for want of another name, perhaps, has been called the vital principle by some, but the "vis essentialis" suits just as well as a name for the life-principle in animal life.

There is one peculiarity about life that is here worth noticing, viz., it is unstable without proper stimulus; it is constantly wearing out; it has to be renewed at frequent intervals. It would seem from this that life is really a form of dynamis. Because of this frequent want of renewal, some have said that the blood is the life.

But that is not conclusive, for the life may go out with the blood-vessels full of the richest blood. All that is known of life in animal or man is that there is a something—we call it the vital principle—with a dynamic action, pervading and dominating the organism to the extent that the organism can do nothing without it. Life has never been identified outside of the organism, and it is said not to exist. It is not known if that be true.

But returning to the main subject, heredity, of which this is an essential part, we conclude, as before suggested, that heredity is supplementary to the endowment, making specific what was before general. For instance, the endowment of the genus *Equus* is to construct a horse, but heredity steps in to say a large horse, a small horse, or a black horse. Thus, by virtue of heredity, one may breed for size, shape, color, gait, or disposition, even. If it were not for heredity we could have no varieties. It is heredity that decorates the male bird with beautiful plumage, and not sexual selection, as Darwin claims; *i.e.*, because the female bird admires the gaudy plumage, and chooses the male so dressed as her consort, the male is bedecked in this beautiful plumage, is his reasoning.

What possible effect could the admiration of fine decorations on the personality of the male bird, by the female bird, have on the production of more or finer decorations on the feathers of the male bird, granting that she could and did admire fine feathers on the person of her consort, which is very problematical? Common sense tells us that it cannot have the remotest effect, inasmuch as man's admiration has no effect whatever on his plumage or decoration. Again, if one male bird, having been picked upon by all the females of the species and should as a result leave all the progeny of that species, all the male birds would be decorated like the father bird was, because of the office of heredity. The idea that sexual selection, exercised by a female bird, should have the effect to make more gaudy the plumage of the male birds of the brood, from that of the father bird to a more elaborate bedecking of the feathers of the young birds, is moonshine. Sexual selection is a myth, quite as much as we have shown natural selection to be. Would the fact that a

female bird chose a certain male bird for her consort, add one feather or one tint on a feather already there, in the decoration of the male progeny? If so, why should it not add to the decoration of the female birds of the same brood? Is sexual selection so discriminative that it can tell a male bird from a female bird in the same brood? That is on a level with powers ascribed to natural selection, as we have seen. Why, certainly it would not fulfil the calling of the idol if it did not perform the miraculous. Because the female bird is not at all affected, but looks like the mother bird; and the male birds looks like its father bird, it shows plainly that it is heredity at work, and that sexual selection has nothing whatever to do with the decoration of either the male or the female bird. There is an absolute lack of adequate causation in "sexual selection." It is a myth.

"The survival of the fittest" is also a myth—a mere sentimentality. Do the fittest always survive all others of their kind? Test it in society—does it hold good? From all the higher standards of our civilization, were not the Greeks more fit to survive than the Romans? Yet the Greeks went down and out before the avalanche of Roman aggression, not because the Romans were the fittest, but because they outnumbered the Greeks, and because might made right. What possible effect could "the survival of the fittest" have had on the origin of Man? The paternal grandfather of Man, the gorilla, still lives. The coming of Man did not affect him in the least. "The struggle for life," however, is a reality. There is something to it, as all can testify. This struggle has been waged since the creation; but did you ever know it to give birth to a new genus? It has wiped out many a specimen, but it never produced anything new. This is another formula for egoism; it is egoism, pure and simple; and as such it is the antipode of altruism, without which there would have been no others.

Heredity is a very great factor in animal life. I quote the following pithy article written by Professor Cuénot, of the University of Nancy, France:

"The fact must be insisted on that the substance of the individual is the sum of the two germs furnished by the

parents. Now, there is no doubt that our good qualities and our defects are both dependent on material structure. Education and the influence of environment may perhaps modify this heredity, but to what extent? Here is a grave and difficult problem of moral responsibility, which confronts us so often in the courts and in society.

"The hereditary descent of all sorts of characteristics has long been noticed. It has been felt that there must be rules to regulate it, and attempts have been made to discover them. Of recent years the application of the experimental method has thrown a bright light on these phenomena. We may refer here to the fundamental experiment represented in the diagram (Fig. 1)—crossing of gray with white mice.

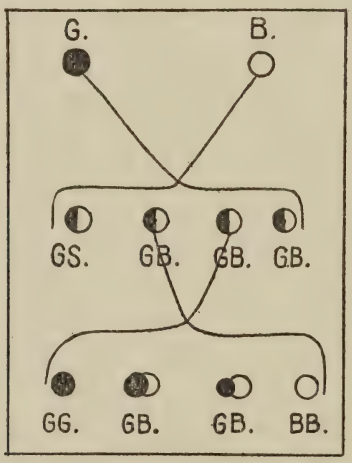


Fig. 1.

"The common gray mouse and the white or albino mouse are both well known. When these two forms are crossed, the offspring are like the gray parent—and we may say that there is no dominance of the gray characteristics; the white is hidden by the other and is dominated or latent. But continue the experiment; crossing the two hybrids we have not only gray mice, but also white ones, fewer in number. If the crossing be continued we find that there are always three grays to one white.

"How shall we interpret this? Here is the hypothesis: The paternal elements cannot fuse together; they remain separate, half being gray (G), half being white (B). When we cross the hybrids we may thus have four combinations:

$$\left.\begin{array}{l}\text{Gray} \times \text{gray} = (GG).\\ \text{Gray} \times \text{white}\\ \text{White} \times \text{gray}\end{array}\right\} = (GB).$$
$$\text{White} \times \text{white} = (BB).$$

"These four combinations will give the following results:

$$\left.\begin{array}{l}\text{Gray} \times \text{gray} = \text{gray of pure breed.}\\ \text{Gray} \times \text{white}\\ \text{White} \times \text{gray}\end{array}\right\} = \text{gray of impure breed, like the parent hybrids.}$$
$$\text{White} \times \text{white} = \text{white of pure blood.}$$

"We may express this result more briefly as follows:

$$GB \times GB \times IGG = 2GB \times IBB,$$

which corresponds to the results of experience.

"The next figure shows the test of this theory. Crossing a gray mouse of impure blood, containing the white

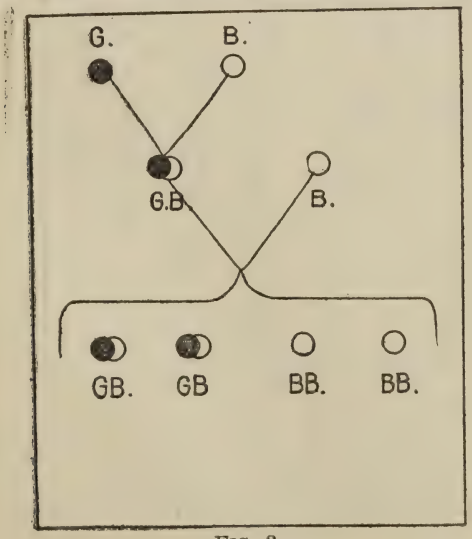


FIG. 2.

breed in the latent state, we have an equal number of grays and whites. This is because only two combinations were possible:

Gray × white = gray of impure breed (GB).
White × white = white of impure breed (BB).

"Very long and delicate experiments give results that conform so well to the theoretical predictions that there must be some truth in the hypothesis; the phenomenon seems widely extended both in the animal and vegetable worlds. If it be true, Man has the wonderful power of being able to transmit to his children not only his visible or dominant qualities, but equally a host of latent characteristics that he may possess.

"The third figure represents the crossing of a white, red-eyed mouse with another red-eyed mouse having a

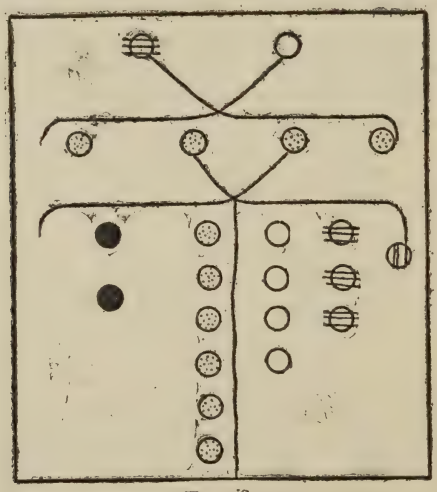


FIG. 3.

tawny yellow coat. We shall expect to find hybrids all with red eyes, like the parents, and with yellow or white skin; but this is not the case. The result is rather paradoxical; the descendants all have black eyes, gray backs, and whitish bellies, while their eyes are certainly larger

than those of their parents. Instead of presenting the phenomena of dominance, the partial characteristics have combined to produce a new result. When crossed again, these hybrids produce a strange variety of forms: One black mouse; two gray mice with whitish bellies like their parents; three white mice with red eyes, like one grandparent; four yellow mice with red eyes; five pearl-gray mice with red eyes. They have fixed numerical relations which appear as follows:

8 with black eyes { 2 black.
6 gray with white bellies.

8 with red eyes { 4 white.
3 yellow.
1 pearl-gray.

There has taken place a separation of characteristics and also a decomposition, resulting in absolutely new forms."

The important thing for the reader to remember in this connection is the fact that though there may have been produced absolutely new forms in this series of crossings, nevertheless the progeny are all mice—no new genera have been produced. He bred mice and got mice as a result, though the varieties were increased.

"Fig. 3. Crossing of white mouse (white circle) and yellow mouse with red eyes (horizontal shading). The hybrids are black (black circle), gray with white bellies (dotted circle), and pearl-gray with red eyes (vertical shading), besides others like the original parents.

"Almost every one has either visible blemishes or latent tendencies to disease, which last are as important as the first from the point of view of transmission, as we have seen. If you wish, so far as you can, to accomplish it, that your children should remain untouched, avoid marriage with families that have blemishes or tendencies similar to yours. I am fully aware that advice is easier to give than to follow. Man, who has been applying for centuries processes of selection to his domestic animals, has not understood that he might apply the same to his descendants with advantage. Nevertheless, robust health and safe inheritance is better than a dowry, as we may well believe."

It is the fashion nowadays to blame heredity for the defects of childhood—all the nutritional and constitutional diseases affecting childhood, as well as many or even all criminal tendencies in youths. Surgeons are performing operations on the heads of young criminals to "relieve undue pressure on the brain and thereby cure (?) the patient of the tendency to crime." But is it true that these things are expressions of heredity? The consensus of advanced opinion is that it is not. There is a growing opinion that "Nature seeks to give every child a fair start and a healthy body, as eighty to ninety per cent. are born healthy. Even the poorest and most ill-nurtured women bring forth as hale and strong-looking bábies as those in the very best condition. The deterioration begins later, from the influence of environment.

"Biologically, the first years of life are supremely important—they are the foundation years; and just as the stability of a building must depend largely upon the care and skill with which the foundations are laid, so life and character depend in a large measure upon the years of childhood and the care bestowed upon them. For millions of children, the whole of life is conditioned by the first few years. The period of infancy is a time of extreme plasticity. Proper care and nutrition at this period of life are of vital importance, for the evil arising from neglect, insufficient food, or food that is unsuitable, can never be remedied.

"The problem of the child is the problem of the race, and more and more emphatically science declares that almost all problems of physical, mental and moral degeneracy originate with the child. The physician traces the weakness and disease of the adult to defective nutrition in early childhood; the penologist traces moral perversion to the same cause; the pedagogue finds the same explanation for his failures. Thanks to the many notable investigations made in recent years, especially in European countries, sociologic science is being revolutionized. Hitherto we have not studied the great and pressing problem of pauperism and criminology from the child end; we have concerned ourselves almost entirely with results

while ignoring causes. The new spirit aims at prevention.

"Though the children of the poor may enter upon life as well prepared to fight its battles as those of the rich, they very soon fall behind, and the main causes are under-feeding and neglect. If the mothers nurse them, the milk is scanty and poor in quality, because the mothers themselves are underfed; but in the vast majority of cases the mothers have to leave home to work, and the babies are relegated to the care of the other children of the family. This combination of insufficient nourishment and neglect, together with bad housing and clothing, bring a blight upon the children of the poor, and they die in large numbers, while those that survive are victims of various diseases which might be avoided or overcome in more hygienic surroundings, and which are avoided or overcome by the children of the well-to-do. Mortality differs very greatly in different social conditions.

"Wolff, in his classic studies based upon the vital statistics of Erfurt for a period of twenty years, found that for every 1,000 children born in working-class families, 505 died the first year; among the middle classes, 173, and among the higher classes only 89. Of every 1,000 illegitimate children registered—almost entirely of the poorer classes—325 died before the end of the first year. Dr. Charles R. Drysdale, senior physician of the Metropolitan Free Hospital, London, declared some years ago that the death rate of infants among the rich was not more than 8 per cent., while among the very poor it was often as high as 40 per cent. Dr. Playfair says that 18 per cent. of the children of the upper classes; 36 per cent. of the tradesman class, and 55 per cent. of those of the working-class, die under the age of five years.

"And yet the experts say that the baby of the tenement is born physically equal to the baby of the mansion. For countless years men have sung the Democracy of Death, but it is only recently that science has brought us the more inspiring message of the Democracy of Birth. It is not only in the tomb that we are equal—where there is neither rich nor poor, bond nor free—but also in the mother's womb. All birth class distinctions are unknown.

"For long the hope-crushing thought of the prenatal hunger, the thought that the mother's hunger was shared by the unborn child, and that poverty began its blighting work on the child even before its birth, held us in its thrall. The thought that past generations have innocently conspired against the well-being of the child of to-day, and that this generation in its turn conspires against the future, is surcharged with the pessimism which mocks every ideal and stifles every hope born in the soul. Nothing more horrible ever cast its shadow over the hearts of those who would labor for the world's redemption from poverty than this specter of prenatal privation and inherited debility. But science comes in to dispel the gloom and bid us hope. Over and over again it was stated before the Interdepartmental Committee by the leading authorities of the English medical profession that the proportion of the children born healthy and strong is not greater among the rich than the poor. The differences appear after birth. Wise and patient Mother Nature provides with each succeeding generation opportunity to overcome the evils of ages of ignorance and wrong; with each generation the world starts afresh and unhampered, physically, at least, by the dead past." (Selected.)

CHAPTER VI

THE SUPREME POWER OF THE UNIVERSE

We will not stop to discuss the origin of the universe at large, or even that of the world in which we live. Those questions include the one we are discussing, as the greater includes the lesser. The one is germane to the other, and either, on being solved, offers a solution for the other, as there can be no doubt that the author of the one is the author of the other; that is to say, the same Cause that produced the universe as a whole, or the earth as a part, operated to produce the human race. The same Creator created the world and all that in it is. There must have been an adequate cause for either, as nothing exists without having an adequate cause. It is simply amazing that men, posing as scientists, should advocate the doctrine that chance operated in the production of the world or the animal kingdom, including the human race. Or if not chance, then a wholly inadequate cause in the form of a supposed law of nature. We go right back of that and ask: What produced nature and its laws? Dr. Haeckel uses the expression, "spontaneous creation." How could such a thing be? It is a plain contradiction of terms. Creation necessitates a Creator; while spontaneity presupposes action by its own impulse or energy, without external force. That would mean self-creation—an absurdity. The question of creation cannot be comprehended by the finite mind, and so that question is unsolvable by Man.

While the mind cannot comprehend the infinite any more than it can comprehend space or time, and can only approach its comprehension by applying to it some of the attributes of the finite, our common sense tells us that the antithesis of the finite is the infinite. While Philoso-

phy claims that it is possible to comprehend the relative, the absolute is beyond the power of the mind; yet our common sense tells us plainly that if there is a relative there must be a reality. So that if there is a finite, just as truly, and for the same reason, there must be an infinite as well as a relative; and all the philosophies extant, which would convince us that we really or absolutely know nothing, that all our knowledge is naught but a negation, cannot satisfy the mind that there is not in the universe an infinite, absolute, First Cause, and which operated to bring into existence all the phenomena of matter and life.

We may speculate upon the question and say as Laplace did, that this earth is the result of molecules of gaseous, cosmic matter of a high degree of temperature, being thrown off from a rapidly revolving mass of widely extended vapor, when, because of the loss of heat and the resulting contraction of this spheroidal mass, and the consequent increase of rotary motion of the mass, the centrifugal force overcame the law of attraction, and threw these nebular bodies from the mass into space, in the shape or form of revolving rings. These nebular rings kept up the motion that had been imparted to them, and gradually coalesced as they cooled off and solidified, and eventually formed what is now the earth and all the rest of the planets. But that is all speculation; it may be true or not. It would seem a little peculiar that gaseous matter, heated to such an extreme and intense heat as would be necessary to change the solid matter of which the earth is now composed, into a gas, would not become dissipated instead of solidifying into a solid mass of matter in the shape of the earth. Besides that, we are compelled to ask from whence came this revolving mass of cosmic matter? We are no nearer to a solution of the question than when we started. Here is an attempt to form the world on mechanical principles; it cannot be done. Already Laplace's hypothesis is declared to be untenable by astronomers, and a new hypothesis is brought forward to take its place, in the way of a mechanical formation of the world. In this new theory they also beg the question by assuming the original mass of cosmic

matter, and only differ from Laplace's theory in the original shape of the nebulæ thrown off from the mass. I quote from the *Literary Digest* the following:

"Some of the difficulties in the way of the old nebular hypothesis of Laplace, and the new theory that is gradually coming to be accepted by astronomers in its stead, are stated and explained by J. E. Gore in *Knowledge and Scientific News* (London, September, 1906). In Laplace's hypothesis—for years the only 'nebular theory'—the original mass from which our solar system was derived was regarded as a great globe of gas (or, in later forms of the theory, of meteor-swarms), with its center where the sun now is, and extending as far as the most distant planet. Slowly rotating, this mass threw off rings as it gradually contracted by its own gravitation, and these rings eventually consolidated into planets and satellites. Of this theory, Dr. Gore says:

" 'For some years past it has become increasingly evident that the hypothesis must be abandoned for something in better agreement with the modern telescopic discoveries. The idea that the planets were formed by the condensation of rings detached from a nebulous mass is a hypothesis for which we find no warrant in the heavens. Laplace's idea of a nebular hypothesis was probably suggested by a consideration of Saturn's rings. But modern researches on tidal action tend to show that this wonderful system was not originally formed as a ring left behind by Saturn during the progress of condensation from the nebulous stage. More probably the matter composing the rings was originally separated from the planet in one mass. . . . We see in the heavens numerous forms of nebulæ—spiral nebulæ, planetary nebulæ, etc.—but there is no real example of a ring nebula. Those which have been termed annular nebulæ are mostly spiral nebulæ seen foreshortened.

" 'To any one who still persists in maintaining the theory of ring formations in nebulæ it may be said that the whole heavens are against him. The original idea was that the detached rings would break up into separate fragments, which would afterward—by mutual attraction—consolidate into planets. But a mathematical investiga-

tion recently undertaken by an American mathematician, John N. Stockwell, shows that two such fragments will approach each other by attraction only until they are sixty degrees apart, and that they will then continue to revolve about the primary body at this distance. Thus the fragments of a ruptured ring would not ultimately consolidate as required by Laplace's theory.

" 'Compelled, therefore, as we apparently are, to abandon Laplace's nebular hypothesis in its original form, are we, therefore, obliged to relinquish all attempts to explain the formation of suns and solar systems from the consolidation of gaseous matter? By no means. The heavens, which are clearly against Laplace's hypothesis, are strongly in favor of a new theory, a new cosmogony, which will probably stand the test of mathematical analysis. This is the evolution [he is evidently tarred with the same stick] of suns and systems from spiral nebulæ discovered with the Crossley reflector. A large portion are spiral, and a study of these remarkable and interesting objects will probably form an important portion of the work of future astronomers.

" 'The new cosmogony will, of course, raise many very difficult questions in celestial mechanics, and will give a considerable amount of work to mathematical astronomers before it can be placed upon a satisfactory basis; but the work which has been done already by Chamberlin and Moulton shows clearly that the spiral theory is far superior to Laplace's nebular hypothesis, which should now be definitely abandoned and consigned to the limbo of unproved theories. The heavens show us thousands of spiral nebulæ, which are evidently in a state of rotation round a central nucleus, but which will probably take ages before they have finally consolidated into suns and solar systems. But ages are but moments in the evolution of the stars, and we need not expect to find evidence of rotation and consolidation during the brief span of human history. Empires rise and fall, dynasties are founded and dissolved, but the heavens move on in their silent course, and the human race will probably have perished before the universe has reached its final destiny.' "

From the above, it would seem that Laplace's "nebular

hypothesis" had received a "knock-out" blow, and that the new theory of "spiral nebulæ," set up to take its place in "celestial mechanics," will probably receive the same treatment in the future. Thus we may keep on speculating as to the cosmogony of the universe, but we know nothing of this period of the world's history, save only what we have been told, viz.: "In the beginning, God created the heavens and the earth." This statement has stood and will stand all tests. It is the only statement—I will not call it a theory—that has an adequate cause back of it.

Not until we arrived at the period when geological time began to tick off the centuries and perhaps eons of time, as marked by the formation of the earth's strata, can we tell anything about the formation of the earth; and geological time is very hard to compute in minutes, hours, days, months and years.

Perhaps the strongest evidence that can be adduced, to prove that the earth had a beginning, is exhibited by geology in the superimposed strata of the earth's crust. After the beginning of geological time, periods are marked in the crust of the earth, and these show something of what occurred after that time, but not all, by any means; they are also silent as to what took place prior to this time. So that as to what took place before geological time began we are absolutely ignorant. From that time we begin to read history, though very imperfectly. We can only approximate—scarcely that—the different catastrophes and cataclysms that have since occurred. As to the years, as measured in our time, they cannot be even approximately told. But these catastrophes and revolutions probably changed the shape of the earth's crust from its original form. In this way the oceans and continents were bounded, and the mountains and valleys were formed.

It would seem that all must admit the eternal existence of either the universe or its Creator. If we deny the existence of the Creator, we assume that the universe always existed, or else that it created itself from nothing, *i.e.*, "spontaneous creation"; or that it was an accident.

Mr. Drummond says: "There is but one theory of the

origin of the universe in the field, and that is creation." Logically, then, we must admit that there must have been a Creator, and that He preceded and caused the universe to come forth, and that He is eternal. We can only say, then, that the universe was created by a competent creative power, which is God, the Supreme Power of the Universe.

It is quite possible that all, save, perhaps, the most thorough-going evolutionist, will agree that the same Supreme Power of the Universe, whatever that power is, or is called, brought into being the animate world, whether animal or vegetable. That is to say, the same cause acted to bring forth the animate world that acted to bring forth the inanimate world. The same Creative Power that caused matter, caused life on this earth. This same Supreme Power caused to exist all that now exists, or that has existed in the past, on this terrestrial ball; and back of all that, He created the ball. It is manifestly impossible that anything pertaining to the earth or the fullness thereof could have come by chance, or, as some philosophers (?) would say, by spontaneous creation—which means that, whether it be matter or life, it created itself.

Now, did this intelligent, Supreme, Creative Power of the Universe create the earth and all that in it is, and, metaphorically speaking, wind it up for all time and then abandon the product to let it take care of itself, He sitting by as an uninterested spectator, or gone off on a vacation? Or, rather, on the other hand, is not this intelligent, Supreme, Creative Power giving His attention to His creatures constantly, holding the destinies of all things, nations and peoples, as it were, in the hollow of His hand, marking even the sparrow's fall, and keeping in perfect harmony all the various laws of so-called nature? Are not what we call the laws of nature only the expression of the changeless will of God, the Creator?

The evolutionist beholds the material world and says: "That is all there is to it. It came about spontaneously, is here, and we are running it while we are here." And so he deals with the material world, in all its ever-changing aspects, on mechanical principles, making use of a

dynamis that he knows not what it is or whence it came—neither does he care. It was here when he came and will be here when he goes; but while he is here he proposes to bridle it, and judge of it, interpret it, by its material aspects and its action. Thus he attempts to build the world, animate and inanimate, by mechanical formulæ, on mechanical principles, embellished with all manner of imaginary interpolations, alone. In the animate world, the material and mechanical parts are necessary to the identity of the individuality and its existence as such; but the material and mechanical parts cannot exist without the "vis essentialis," or vital principle, and, so far as we know, the vital principle cannot exist without the material and mechanical. The two are mutual necessities to each other in the living body. The "vis essentialis" only purports to be the necessary element to the living body, while the material and mechanical are both present in the dead body. So that there is a wide realm, a world outside of the material world, that is quite as essential to our being as the material world. Indeed, the outer or material world is only the expression of the inner or spiritual world; only the tenement in which the real being dwells. The invisible man, the ego, unseen by the material eye, and within the body of clay, is the real man; and not the physical entity which we see with our material eyes.

Mr. Henry Drummond has this thought, which is *apropos* just here. "The tree is a thought, a unity, a rational, purposeful whole; the 'matter' is the medium of their expression. Call it matter, energy, tree—a physical production, and have we yet touched its ultimate reality? Are we quite sure that what we call the physical world is, after all, a physical world? The preponderating view of science at present is that it is not. The very term 'material world,' we are told, is a misnomer; that the world is a spiritual world, merely employing 'matter' for its manifestations."

If that view of the world is true, how enormous is the misinterpretation of the evolution and the believer in pangenesis. The evolutionist does not and cannot connect the material with the immaterial world. They pass the immaterial or spiritual world over as being beyond

their ken, or they take it for granted, if you please. The immaterial or spiritual world is here, but how it came or whence it came they do not answer, only that it came spontaneously.

The genuine evolutionist knows no Creator; he knows no God. But he essays to build the world of animal life by mechanical formulæ on mechanical principles, all the time ignoring the spiritual, the vital principle, the dynamis of life, as a factor of life at all; but at the same time depending upon it to develop his creatures, because without this dynamis, without the vital principle, there is no life. This, again, is cribbing causation by hair-breadths. No evolutionist who has ever written has accounted for life. That chapter remains unwritten; it is simply ignored.

When protoplasm was discovered, something less than fifty years ago, they thought they were very close to the solution of the enigma of life. With the discovery that all living phenomena are manifested in and by the one substance, protoplasm, and that protoplasm is capable of chemical analysis, disclosing itself to be related to albumen, it seemed as if they had approached close to their goal. But even the biologist, leaning toward evolution, must admit that we are certainly more distant to-day from its solution than we seemed to be a few years ago. This substance, protoplasm, and which was so promising and upon which so much was based, has proved, in a measure, a delusion.

To-day we do not know what we mean by protoplasm; no such thing as pure protoplasm can be found. We have absolutely no knowledge of the simplest life substance. We know only living animals and plants. Life, even in its simplest condition, is not manifested in any chemical compound or mixture of compounds.

Life is a dynamic force, the vital principle which animates the body, and expresses itself through that minute but intricate machine which biologists have called the cell. Animal life is manifested only in and through this machine by the vital principle's vivifying effect upon its structure. The cell, *per se,* has no life, but is vivified by this "vis essentialis," the vital principle.

To understand life, we must be able to form and construct a machine that will build and endow the vital element—yes, two separate machines that can construct and endow two vital elements—the male and the female or sexual elements; so constituted as that they will fuse, in appropriate environment, and thereby cause the vital principle to blaze up. Have we yet explained life? No! We have only approximately explained the expression or manifestation of life in the material body.

Life, so far as yet known, came from but one source—from God, the Giver of life. Now it is a fact, as demonstrated by geology, that the simpler forms of life came first upon the scene of the earth's evolution. And after the simpler forms came the more complex forms, more and more complex, until Man was reached. But there is absolutely nothing to prove that later complex forms of life came out of the older and simpler forms, or that the older forms were the progenitors of the later forms, as is claimed by the evolutionist. The theory is all assumption and conjecture, matured and ripened by being retold and insisted upon as a truth. On the contrary, it has been conclusively shown to be an impossible theory; and the history of the world demonstrates it to be a fallacy. Indeed, geology inclines strongly to show that the older forms of life were all or very largely extinct before the newer or later forms of life appeared; they having been swept away by the different cataclysms that swept over the earth, by reason of the upheavals and subsidences of the earth's crust, the next period showing new forms of life with the new form of the earth's crust. This, we are assured, was repeated many times over.

It would be natural that the simpler forms of life should appear first and the complex forms of life later, instead of the complex forms appearing first and the simpler forms later. Indeed, we have good reason to believe that when the simpler forms of life came, the earth was not fitted for the complex forms of life, but only fitted for the simpler forms. The complex forms of life could not maintain themselves here, at the time the simpler forms came upon the earth. But as the changes wrought produced a more suitable environment, new and higher forms

of life came suddenly upon the scene, wholly without any intermediate, transitional forms of life, which must have been the case if the older forms were the progenitors of the later forms. It has been conclusively shown that the later forms of life could not have come by ordinary descent from the previous forms of life; there is, then, but one other solution of the problem, viz., separate, special creation of the species. This is the only adequate solution of the problem. Why is that solution declared unreasonable by some and impossible by others? Is it not a thousand times more reasonable than to say that the newer and higher forms of life came from the older forms by natural descent, when the history of the world says it is an impossibility? But especially is it an impossible thing if the older forms were all extinct before the newer forms of life came upon the scene. But, above all other reasons, stands the fact of nature, viz., that it is an impossibility for one genus to bring forth another genus. That fact alone ought to settle the question. We know such to be the case now, and we have every reason to believe it has always been the case.

In the fullness of time, when the earth was fitted for Man, when the vegetable world was developed so as to sustain human life, and after every other living creature had been created, Man came from the hands of the Creator, to have dominion over the earth and every living creature on this earth.

The time that elapsed from the date of the appearance of those primary and simpler forms of life, until God created Man, cannot be even approximately estimated; it may have been eons of time. Geology plainly demonstrates the fact that the first appearance of animal life on the earth was in the most simple of forms—mere animalculæ; and that age upon age intervened before Man came. The biblical history also distinctly states that Man was created the last of all the living creatures. So that the findings of geology, so far as they go, distinctly confirm the biblical history of Man.

It has been boastfully claimed that the science of geology confirms and supports the theory of evolution in the production of the animal world, because the rocky

deposits contain the petrified remains, or the sarcophagi, of many of the lower forms of life, among the first rocky formations, and do not contain Man's remains. It certainly takes an acute intellect to see a confirmation of the theory of evolution in such a statement. If an explorer, in his wanderings, should come across the bones of some wild animal, would the explorer be justified in concluding that Man had been there before him?

In the above statement, the inference is plain that the primary forms of life existed first, and at the time of, or before the rocky formations began. This is conceded. Geology also demonstrates that there have been none of the intermediate, transitional forms of life which Mr. Darwin declares there must have been, if his theory is true; therefore, that host of intermediate, transitional forms of life was a creation of Mr. Darwin's fertile imagination, for the purpose of substantiating his theory. Mr. Darwin not only does not claim the support of geology, but he repudiates it as being so imperfect as to be worthless. He says: "The difficulties presented by geology to my views are due to the imperfections of geological records." Mr. Darwin also rejects, entirely, the view of the author of "The Vestiges," where he says: "The geological record exhibits to us a succession of animals corresponding, in progressive development, with the fœtal development of the mammalian embryo." Now, geology simply proves that each special form of life existed at the time that such special form got caught and became imprisoned in the mud which afterward became petrified, and thus formed the rocky strata of the earth, nothing more.

The time of the great event of Man's coming can be closely approximated, we think (See Chapter XI), notwithstanding the great variance of the numberless opinions heretofore given. However, leaving out of the question, for the present, when Man came, the fact that he came and is here now interests us greatly. And we want to find out, if possible, his present status; whether he is an accident in animal life, and, therefore, nothing more or less than an animal; or the noblest work of God, by special creation, and receiving his breath of life direct

from the Creator. The question is not so much of how he might have come, but how he did come.

As to the biblical history of Man, placing his advent here at something less than six thousand years ago, we have only to say, at present, that the chronology adopted by the men who computed the time may not be exact, as claimed by some at the time the Bible chronology was adopted; but figures show that the estimates given in Usher's chronology tally closely with the event of biblical history and are in harmony with some recent discoveries made and recorded in profane history, as we shall see.

But, however long a time ago it was that Man first made his appearance here on this earth, we have every reason to believe that the stability and permanency of the law of descent and heredity has kept him essentially as he was when created; at least, in so far as his bodily form is concerned. Just here I wish to quote from a lecture given by Mr. Frederic Harrison, at Oxford. He was an intimate friend and an assistant of Herbert Spencer for forty years, but after the death of Spencer he became convinced of the error of the evolution doctrine. He says: "The laws of stability and permanency are equally essential and dominant; indeed, they come and apply prior to the laws of change. Using the terms in their philosophical breadth, order precedes progress, determines and regulates it. *Progress is evolution out of order.* That is to say, the course of every development is irrevocably determined when the primordial type is constituted."

When the vital elements have fused and thereby caused the vital principle, or the "vis essentialis," if they prefer it, to blaze up and constitute the primordial type, that type is irrevocably determined. You have seen how great a stress is laid on the fact that the difference in these primordial forms could not be told with a microscope, and therefore construed as proving the contentions of evolution, because the special form could not be differentiated. Here Mr. Harrison says: "The course of *every* development is irrevocably determined when the primordial type is constituted." On that great and abiding truth alone our contention is safe. But to quote further: "The child is father of the man; but the child has all the essential

features out of which the man is developed. Stability alone can explain man as a loving, sympathetic, social, moral and religious being. This side of man's nature, the largest, most dominant and the most sublime fact in all nature, can only be explained by social science, solid philosophy and true religion. For all practical purposes of reasoning, the great substratum of stability, its laws and conditions, are quite essential as the laws of change. It is one of the vices of the objective synthesis, that it has banished statics from its scheme and concentrated its study on dynamics alone. Indeed, it is the intellectual and moral disease of our time, to despise everything that is not in a constant flux. The philosophy of evolution is limited in hypothesis to dynamic laws. The law of stability is one of the great and primal laws of the universe."

Coming from such a source, the above declaration is of great import. The truth of his statement cannot be controverted. The blind forces of nature, as we have heard them called, do not construct new machines, neither do they change the form of organic structures; but they do produce accurate copies.

It seems a strange thing to have to say it, but in the light of some claims that are made by evolutionists, I have to say—Nothing comes by chance in nature; but, on the contrary, every organism in the world has had an adequate cause for its being. Nevertheless, some have tried to show that life had a mysterious origin in the way of an accident. Some have said that life may have been caused by a kind of fermentation; others assert that life was primarily caused by a chemico-electric stimulation—whatever that may mean—of a unit of protoplasm, from some unknown cause of action. That, necessarily, relegates it to the realm of the accidental. Think of it—life a pure accident in nature! It must be a fearful stretch of the imagination to bring one's self to believe that the living organisms, to the number of a quarter of a million of different species, had their origin in an accident.

Dr. Haeckel, posing as a scientist, says: "I assume that the first monera owe their life or existence to spontaneous creation, out of so-called unorganic combinations,

consisting of carbon, hydrogen, oxygen and nitrogen." If he had said: "I assume that the first monera owe their existence to *creation* out of so-called unorganic combinations consisting of carbon, hydrogen, oxygen and nitrogen," no fault could be found with his assumption, as these four elements constitute all there is to the cell—but the cell does not constitute life. You can have the cell without life at all, and a perfect mechanical cell, too; but it lacks the "vis essentialis" to make it a live moneron. These four elements are combined by a special formula which no man has been able to decipher or to imitate, even after the life-element has departed.

And, then, if they were created, of course there must have been a Creator, an infinite mind that knew how to combine the elements and elaborate the product to produce the desired result. But he precedes creation with the adjective "spontaneous," which means that these several elements (I might stop to ask whence came these elements) acting and reacting on each other, by their own impulse, energy, or natural law, without external force, produced the thing called life. This certainly relegates the life-principle to the accidental, and does away with a First Cause or a Creator altogether. Then, why say creation at all, if they came to life of their own motion spontaneously? Was there a cell there before there was life? Why did he not say spontaneous generation? Because he knows that is not a possible thing. Yet he knows that if they were created at all there must have been a Creator, which he denies.

All efforts to cause life by experimental methods have been in vain. I am aware that every once in a while there is some one who comes out with the claim that they have evolved living organisms from nothing at all, or from wholly inanimate matter. If any or all such will read Huxley on "Spontaneous Generation" they will conclude to let the job out to some other fellow. Even Prof. Huxley says it is an impossibility. Has Dr. Haeckel any right to assume spontaneous creation from a scientific standpoint? The scientist professes to assume nothing.

As has been said before, evolutionists do not and cannot account for life at all; therefore they have no ground,

no foundation to stand on. True, they always invoke the patronage and aid of nature to complete the process for them; but that is begging the whole question. Besides, nature is inexplicable, incomprehensible. It does not explain itself, and is not capable of explanation by Man.

They cannot account for Man's moral faculties by their mechanical formulæ; add heredity and they are further than ever from an explanation of Man's higher mental and moral nature.

In this new, higher living organism is implanted consciousness, which makes the individuality realize his existence, and which also includes memory, joy, remorse, love, hate, envy, worship, and a multitude of emotional shades and phases of mentality, all of which are entirely unknown in his supposed evolutionary progenitor. Then comes the crowning endowment of Man—volition—that power which enables him to will, to do or not to do. From whence did these faculties come? Do you think that selection, self-administered, can account for them? These functions of the human mind are entirely outside of the mechanical, and evolution cannot account for them in any adequate manner. They were placed in Man's individuality by the Creator; no other causality is adequate to account for their presence in Man. The claim is made that the cell has the function and the power to reproduce itself in a new cell, when the parent cell's work is done. Even if that were entirely true, they cannot explain that process by the evolutionary formulæ. It is not technically true; it is only partially true that the parent cell reproduces itself in a new cell in the place of an old one. The old cell furnishes the nidus for the new cell, but the same cause that produced the first cell in the nascent organism reproduces the cell when the old cell is burned out. The vital principle caused the first cell to form in the nascent organism, and it also causes the last cell to form the perfected organism.

This is the expression of animal life in the organism, and is not capable of explanation on any other hypothesis than that of the life-principle furnishing the constructive

power of the organism. Descartes said well when he called it the "vis essentialis."

Dr. Chambers, on the "Renewal of Life," says: "Man's body may be likened to a stately mansion, made of beauteous but very perishable materials, all of which are always needing repairs to keep up the shapeliness and usefulness of the building. But not all in equal degrees; some of the walls may stand unaided for years, while other parts may want almost hourly looking after. When the owner leaves the dwelling the repairs cease, and then we see, not all at once, but one after another, the materials falling into ruin. Already while the soul is withdrawing we know that changes begin, very obvious to even the most superficial observer. These changes are mostly due to the loss of water by evaporation. The eyeball loses its brilliancy and gets dry and flat, the features shrink, the gloss leaves the hair and skin. Dead flesh and living flesh last as nearly as possible the same time—the former, if anything, rather longer. As far as we can judge, the albumen, fibrin, gelatin, etc., which make up the living body differ in no wise from the same matters dead; they are liable to the same change, affected by the same reagents, and naturally are resolved into their elements in the same time, just as the marble in the Apollo Belvidere is to a mineralogist the same stone as it was in the quarry, liable to the same accidents and possessed of the same properties, though temporarily endowed with a different value, and made godlike by its adventitious form."

Does it not appear perfectly plain, from this beautiful figure of speech, that the life-element, the vital principle, is the essential element in the living body? Indeed, it seems so plain that it ought not to be questioned—but it is. The order is exactly reversed when it is said that the organism gives life, instead of the "vis essentialis" giving rise to the organism. The medical kaleidoscope has lately taken another turn, and now again they advocate the old theory of life, viz., that life depends on the chemistry, or the chemical changes going on in the organism. This is about the fifth time in history that this theory has had its inning, and we know not how

many times more it may be renewed in the future, as men's minds are apt to run in ruts. Thus the evolutionist has no climax with which to finish off or complete his structure, Man. There are lacking all the distinctive elements of Man's individuality, so that he has neither foundation for his structure, nor spire to finish it off; but he deals only with the dynamic forces of what he chooses to call nature, by assumption, just as Dr. Haeckel did a while back.

Let us see what this great power is that they regard as the *ultima thule,* and so diligently invoke to complete all their processes. Mr. Darwin says: "I mean by nature only the aggregate action and product of many natural laws; and by laws, the sequence of events as ascertained by us."

Let us examine that definition a little. Is it a comprehensive and intelligible definition of nature? Could anybody have told what he was defining if he had not stated what it was? It is not permissible to use the same word in the definition that is being defined; but the definition must be given in other terms than the one being defined, else it is no definition, as it does not remove the obscurity which was supposed to exist and which made it necessary to give a definition. If asked to define mathematics, you would not be permitted to say: Mathematics is the aggregate action and product of many mathematical laws; or in other words, mathematics is mathematics; as that does not make the other person to understand by words what is meant by the terms employed. Now, if he means by that definition of nature the powers which carry on the processes of creation, *i.e.,* the power which continues the reproduction of the species by procreation, then we could understand him; but it is evident that he objects to such a wording, as he denies creation *in toto,* and therefore felt it necessary to give his meaning of the word "nature," after leaving out the idea of creation, with a result so equivocal or ambiguous as to be unintelligible.

That ambiguous definition of nature makes it necessary to define the word "laws." When he comes to define that word, he puts the effect in the place of the law;

as, "the sequence of events as ascertained by us." Now, that is not the law at all, but simply the effects of the law. The law is that if two correlated vital elements fuse, under proper environment, a new vital principle will be created; the new vital principle is the sequential event, produced by the fulfilment of the law. This *event* is ascertained by us when the new vital principle has taken on the form of the genus to which it belongs, so that it can be differentiated by us.

Mr. Darwin seemingly foresaw that some one might ask him whence come these natural laws? What legislative power is there in the universe that can enact a natural law? Or did these natural laws arise spontaneously? It must have been a legislative power having supreme control of the universe that enacted its laws and is therefore the Supreme Power of the universe.

That new vital principle, and therefore new life, which is the result of the fulfilment of the law, is a new creation, a creation just as much as when God created Adam from the dust of the ground and breathed into his nostrils the breath of life. This new creation is accomplished by virtue of God's fiat, in setting up the law; therefore reproduction is an oft-repeated creation, in that every time the law is fulfilled a new being results. That constitutes a miracle, just as much as the first creation, only it is accomplished in a different manner, but a miracle nevertheless, because it is wrought by the interposition, aid, and permission of God, through His law. Will any man explain reproduction on any other basis?

Even Mr. Darwin did not claim to have established evolution as a fact; he offered evolution as a theory only, to explain nature in the animate world, from the standpoint of a disbeliever in a Creator—denying *in toto* the creation (of the animal world especially) by a Creator. You see his position; he was a man of brains, and he bent his energies to satisfy himself in metaphysical philosophy that there is no Creator. The doctrine is unique for its mysteries, and is apparently too valuable an asset, to the large class of unbelievers, to be given up. Therefore it has been pushed for all that it is worth, and it has been patched up by different men

with different theories until it is a veritable crazy-quilt of incongruous, unharmonious coloring, and devoid of truth.

Neither did Prof. Huxley think that evolution is an established truth, though it is hard to say just what he did really think, as his statements of his belief are so equivocal as to amount to a contradiction. For instance, he says: "Mr. Darwin's hypothesis is not, so far as I am aware, inconsistent with any known biological fact; on the contrary, if admitted, the facts of development, of comparative anatomy, of geographical distribution, and of paleontology, become connected together and exhibit a meaning such as they never possessed before. And I, for one, am fully convinced that if not precisely true, that hypothesis is as near an approximation to the truth as, for example, the Copernican hypothesis was to the theory of the planetary motions. But for all this, our acceptance of the Darwinian hypothesis must be provisional so long as one link in the chain of evidence is wanting; and so long as all animals and plants certainly produced by selective breeding from common stock are fertile, and their progeny are fertile with one another, that link will be wanting; for, so long, selective breeding will not be proved competent to do all that is required of it to produce natural species."

How any man can reconcile and harmonize those two statements is beyond my comprehension. The principles involved in the statements are incompatible, unreconcilable. Take this clause: "Mr. Darwin's hypothesis is not, so far as I am aware, inconsistent with any biological fact." The Darwinian theory of evolution is inconsistent with the biological fact of genera, as, if evolution were true, there could be no such thing as different genera in the animal world; but, instead thereof, the animal world would be composed of fine gradations of intermediate, transitional forms of life, all having one common blood, and all fertile with one another, which is not the case.

Darwinian evolution is inconsistent with the well known biological fact that there are separate and distinct genera, and that two separate and distinct genera cannot

unite for procreation, because they are not fertile with one another.

Darwinian evolution is inconsistent with the biological fact that two individuals of the same genus only can unite with each other for procreation, and that the progeny of such unions will be fertile with one another only.

Darwinian evolution is inconsistent with the biological fact that there never has been known to be, and there cannot be, according to Prof. Huxley's statement, a specimen of an intermediate, transitional form of life. This fact is fatal to the Darwinian theory, for he says the transition is by ordinary descent, by numerous, slight modifications of the original form. Compare this with Mr. Harrison's statement: "The course of every development is irrevocably determined when the primordial type is constituted." How, then, can one genus produce another genus? Compare also Prof. Huxley's statement: "For, so long, selective breeding will not be proved to do all that is required of it to produce natural species." Then selection has ignominously failed to do what Mr. Darwin's theory said it would do. All of which facts it is reasonable to suppose Prof. Huxley was aware of.

The two statements are inconsistent with each other in that, in the second statement, he clearly states a fact which wholly invalidates the first statement; and which fact, I may say right here, is the crux of the whole matter, the decisive point in the controversy. It is a clear, terse statement of the exact truth; and this truth having been established beyond any hope, on their part, of contradiction, totally annihilates the Darwinian theory of evolution. It is this: "So long as all animals and plants certainly produced by selective breeding from common stock are fertile (which is the supreme and conclusive test of genus), and their progeny are fertile with one another, that link will be wanting." That statement is in perfect harmony with all nature. It is absolutely the law, no one knowing it any better than Prof. Huxley, and it makes it positive that one genus cannot bring forth a new genus. It makes no difference how much selection has been exercised and enforced, so long as the progeny are fertile

with one another, it is positive proof that they are of the same genus. Therefore, a connecting link in the form of an intermediate, transitional form of life is an impossibility. Mr. Darwin's theory must necessarily then be wrong, as the very thing they do not want is the rule and the law, and the test of the law; and the thing they do want is an impossibility, as Prof. Huxley says himself.

The foregoing axiom, in biological law, stated by Prof. Huxley, is corroborated by Mr. Darwin's own experience in that, though a breeder of pigeons for twenty years, he never bred anything but a pigeon from pigeons; and they were all fertile with one another; so much so that he had to use enforced selection to breed from. As a matter of course, there were many different varieties produced, but they were all pigeons. But let those new varieties alone, cease to exercise enforced selection for a time, and they will revert to the original rock pigeon from which they all sprang. Mongrels are prone to reversion.

The absence of atavism, the reversion to the peculiarities of remote ancestry, in the human race, or any genus for that matter, is another corroborative proof that the human race is not a descendant from the ape; but has been a distinct genus from his creation.

To show that Prof. Huxley had not all the doubts cleared away from the "corners of his mind": "No one is more strongly convinced than I am of the vastness of the gulf between civilized man and the brutes; or is more certain, whether from them or not, he is not of them." Now, I confess that I cannot understand what he means by that expression. Ordinarily we would say, if we were from them, we are of them. But he would have us to say, even if we are from them, we are not of them. It would be interesting to know how we could be from them and not of them. Some people, at least, are proud of their ancestry, and take great pains to preserve their lineage. I do not know that I blame the professor for disowning the ancestry he has advocated for the rest of the human race, in the evolutionary chain; but is it logical? It would seem to me to be most repugnant to think that my ancestors were monkeys.

But the later school of evolution, the lesser lights of

the theory, claim that evolution is no longer a theory; that it is a branch of civic science, real knowledge, classified knowledge, which means that it is absolutely known to be true. Have we not proven over and over again its fallacy in these pages? Not only by the argument adduced by the writer, but by the words of Prof. Huxley? Now we submit to any candid mind that it is only classified speculation—nothing more.

Prof. Huxley says: "Science has fulfilled her function when she has ascertained the truth; and were these pages addressed to men of science only, I would now close this essay, knowing that my colleagues have learned to respect nothing but evidence, and to believe that their highest duty lies in submitting to it, however much it may jar against their inclinations." I like that; it suits me exactly. But how it must grate upon the ears of his colleagues, after they see pointed out the incongruities, the inconsistencies, yes, the baseless position of evolution!

One professor (?) has the assurance to say: "He who doubts that man and the chimpanzee have a common ancestor must be congratulated on his inviolate mind. Facts have no terrors for him." Now, that hits the writer exactly; he is in that class; and can say in retort that any man who believes that he is the descendant from the chimpanzee, or any one of the four anthropoid apes, has not studied the question to the bottom, or else there is something wrong with his reasoning faculties. Of course we do not object to his believing that kind of trash if he wants to. If he is happy in the belief that his progenitor was a chimpanzee, that is satisfactory to me; his progenitor may have been an ape, but mine was not. What we do object to is his posing as a scientist; and from that position promulgating such nonsense for the truth.

I have been diligently working for four years to find at least some of those so-called facts; but I have found not one essential fact that any man can put his finger on that will, in any degree, justify the assertion that "Man sprang from the ape," or that "Some one of the four varieties of the anthropoid ape is the progenitor of Man." Even Mr. Darwin or Prof. Huxley do not claim that there is even one essential fact known to them on

which to base the assertion. Their arguments are all based on inferences, of which I will give a sample presently. Not a single essential fact is known, but, on the contrary, every essential fact in nature is arrayed against the Darwinian theory of the evolution of the species. There are a great many assumptions, and all that is not assumption is pure theory; and is even more impossible than perpetual motion. As well expect an ostrich to be hatched from a canary bird's egg, as that the progeny of an invertebrate should be a vertebrate, or that the spawn of a fish should produce a reptile. Well has the venerable pathologist, Prof. Virchow, said: "It is quite certain that Man is not the descendant of the ape; it is unimaginable save only in a dream."

Geology does not furnish a single well-marked example of intermediate, transitional development in the animal kingdom, an innumerable host of which Mr. Darwin says must, at some time in the past, have existed, if his theory is true. But suppose that geology is so imperfect that it has failed to record any intermediate forms of life, but has recorded some curious, extinct forms of life in the fossiliferous deposits, would that fact substantiate the theory of evolution? Not at all. Because a few unusual, extinct forms of life have been found with which geologists and naturalists were not familiar, perhaps never having seen such forms before, would that justify the conclusion that such forms are intermediate, transitional forms of life? Not at all. When it is remembered that, on the evolutionary theory, there were an untold number of intermediate forms of fine gradations, resulting from the numerous, slight modifications of form in the line between each of the well-marked genera of to-day (granting, for the time being, that such a thing could be), there must have been infinitely more in numbers of this transitional form of life than of the true genera. For this reason the very pertinent question is again asked: If there were ever these intermediate forms of animal life, whence comes the order that we see to-day in the animal world, of only well-marked genera? What great, discriminative, deadly malady operated to bring order out of chaos by obliterating entirely all this host of interme-

diate, transitional forms of life, and leaving only the representatives of the true genera? Some very unusual form of destruction must have operated with complete success. It must have been awful! But can anybody imagine such a discriminative besom of destruction? But here comes Prof. Huxley. He is a great apostle of evolution; let us ask him about this great slaughter of the innocents.

"Prof. Huxley, what do you think about this great host of intermediate, transitional forms of life that were swept away, leaving only the well-marked genera?"

"Well," hesitatingly, "I will tell you; I have concluded that so long as all animals and plants certainly produced by selective breeding from common stock are fertile, and their progeny are fertile with one another, that link (all intermediates) will be wanting."

"What! Do you think there were no intermediate, connecting links between the genera?"

"Why, so long, selective breeding will not be proved competent to do all that is required of it to produce natural species."

Well, well! Then there were no intermediate, transitional forms of life? Why, there could not be, because when Prof. Huxley said the connecting link would be wanting, he could not mean just one connecting link between two nearly related genera; but he must mean all connecting links between all the different genera; because the law applies to all animals alike, and his statement is that of a general principle, applicable to all, if it is to one. The "so long" he makes use of takes in all time in the past, and, probably, all time to come. It has ever been thus. Here is a vindication of what we have contended for all along, by one of the greatest advocates of evolution—Prof. Thomas H. Huxley.

Thus another distinct bar to the evolution theory is raised. But there are many more. For instance: The physiological process of aeration or oxygenation of the blood in the different forms of organic life is a distinct bar to the theory of evolution. In the lower forms of life there are no specialized organs. Of the vital organs there are but two—the stomach and intestines. Indeed,

we may go back to those forms of life that have no stomach; they have but one vital organ—the intestinal canal—though the skin may be counted a vital organ. So, in very many of the lower forms of life, there is no differentiated vascular system; in fact, they have no blood to circulate in the sense of its being a fluid composed of plasma, red and white corpuscles, and serum; but it is only a nutritive juice, and is distributed to the different structures, which are very few, by osmosis from the intestinal canal. What little aeration there is, is brought about by and through the investing membrane, which corresponds to the skin of more complex organisms. The claim of evolution is that these simple, primary organisms are the progenitors of the next higher organism in the scale; and these in turn the progenitors of the next higher, and so up to Man. With each new species a new system must have been inaugurated for the accomplishment of the aeration, until we arrive at the completed structure of the lung with its distinctive pulmonary circulation. The question is, to what power does evolution ascribe all these changes? What gave rise to the initiative in each change? What executive power secured the construction and installation of the new structure? What intelligence supervised the architecture of the new organism? Mr. Darwin says it is selection that sees to all this. Mr. Spencer says these changes are brought about by the expression of the desire, or the aversion of the individuality; or they result from the pleasures or the pains of the individuality. Dr. Haeckel says these changes are brought about from the necessities of the case. Necessity is the architect and builder, probably, but I favor transmutation. Are any of these ascribed causes valid or adequate causes? Could anything be more preposterous? One solution is as good as the other. Neither is valid or adequate. But here again comes a great man who has seen the light—Mr. Frederic Harrison—who says: "The course of every development is irrevocably determined when the primordial type is constituted." And Prof. Huxley practically endorses him by saying: "So long as all animals and plants certainly produced by selective breeding from common stock are fertile, and their progeny are fertile with

one another, that link will be wanting. So long, selective breeding will not be proved competent to do all that is required of it to produce natural species." Is that conclusive enough to prove the fallacy of the theory?

Charles Darwin was a brilliant, aggressive and tireless enthusiast of nature; in his ambition to be first in his class he gave rein to his imagination, and then wrote in the spirit of a novelist, rather than that of a scientist, using specious arguments based on hypothecated structures, to make his theory complete; all the time using his arguments with great adroitness, avoiding too definite statements, but just strong enough to confuse and mystify, to support his theory, if the reader's imagination be strong and active enough to follow where he leads. But now, reader, we have done away with all imagination in the story, so leave out your imagination and look at the facts of nature, and perceive at once that all the facts there discovered are arrayed against his theory.

Mr. Darwin's work, "The Origin of the Species," consists largely of hypothecated structures, which he uses in the place of realities. He starts in with a proposition adjusted to suit his fancy and his necessities, proceeds to draw an imaginary semi-conclusion in the shape of "apparently"; then he follows with an argument in which he builds a further hypothecated structure; and for a conclusion of the second link, he says: "These animals probably gave rise to" so-and-so. Then, for a grand conclusion, he reasons if the apparent gave rise to the probable, such-and-such a result must have followed. Now this is the exact process by which he brings forth a vertebrate from an invertebrate—an impossible thing. Thus a conclusion has been reached with as much satisfaction as though his hypothecated structures, to begin with, had been a reality. This is characteristic of his work. Sometimes, to relieve the monotony, he reaches a conclusion by a less certain and authoritative route, and says: "If such an hypothecation is right," such-and-such a result may follow. Then, in certain places, where he has a certainty to start with and wants a connecting link in his chain, his fertile brain brings forth the imaginary or hypothecated structure with as much assurance as

though it was a well-known species; and assumes that it is so, with as much nonchalance as though he had seen it with his own material eyes. Of course it is to be presumed that all this came about by or through the influence of either "natural" or "sexual" selection.

Now, such is the basis and the reasoning of the so-called "Science of Evolution." Is it a science, or is it the wildest of speculation by a very able author?

Some people might think this criticism is a baseless tirade—an unjustifiable attack on Mr. Darwin's writings. Because of this liability, I will give a quotation from his work, "The Origin of the Species."

In the example quoted below, be it remembered that he is in a dilemma; he has arrived at a point in his story where he has to make the invertebrate the progenitor of the vertebrate. He says: "The most ancient progenitors of the kingdom of the vertebrata, at which we are able to obtain an obscure glance, *apparently* consisted of a group of marine animals, resembling the larvæ of the ascidians. These animals probably gave rise to a group of fishes as lowly as the lancelet; and from these the ganoids *must have been developed.*" (The italics are all mine.)

Just think of the whole kingdom of the vertebrata having such a very slender thread of existence as is indicated by "probable" and "apparently!" And, then, to have this very slender thread an impossibility makes it heartrending to think how it all *happened.* (?)

It seems very plain and very fair to infer that Mr. Darwin, in his later years, was influenced greatly in his reasoning by his intimate friend and associate, Herbert Spencer. The *International Cyclopedia* says: "Spencer's treatment of science and scientific subjects does not begin with observation and experiment on well-known bases, and thence rise through them to scientific generalizations; but starts with hypotheses supposed to be ultimate truths, the test in all cases being the mental inconceivability of the opposite of the proposition; and seeks to explain phenomena from this assumed standpoint." In other words, his treatment of science is entirely speculative and deductive, couched in abstrusely technical lan-

guage. Very similar indeed is Mr. Darwin's method of treating knotty problems. The reasoning is the same, and may be called specious.

If allowed to set up a questionable premise, very remarkable results may be brought about, even by correct and cogent reasoning; but which may be entirely at variance with the facts, simply because the premise is not a correct one. Now, this is the exact condition in Mr. Darwin's "The Origin of the Species." The author has started in with the idea as a premise that nature is the ultimate cause of all living phenomena; denying, as he says, the dictum of creation. He also assumes that this ultimate cause may be influenced, twisted, and distorted in any kind of shape, and still it will kindly reproduce whenever invoked. Then, after all that, if allowed to supply all manner of hypothecated structures, and to assume that they are genuine productions of nature, any result may be obtained to suit the fancy.

Nature is not the ultimate cause acting to produce the animal world. Nature is simply the result of the action of a great Causation lying back of it. Nature is the universe and all that in it is; God is the builder. Nature is perpetuated by the action of that same great and ultimate Causation through laws enacted by Him for that purpose. Those laws are positive and inexorable. Mr. Darwin has treated them—the laws of reproduction, particularly—as being highly exorable; in fact, capable of being twisted in any manner he saw fit, in order to meet his wants. For instance, the positive and inexorable law of reproduction, that species can only reproduce their kind, is entirely ignored or made exorable by having them produce other than their kind; not only slightly different, but entirely different, the nature of the progeny being entirely revolutionized. As an invertebrate to bring forth a vertebrate animal; and that vertebrate, the lowest type of the fish, made to be the progenitor of the whole kingdom of the vertebrata, in spite of the inexorable law that each genus shall bring forth of its kind only.

Take another example to show his acute imagination and his specious reasoning. He is now trying to account

for the fact that the human being has no hair on his body, very unlike his supposed progenitor, the ape. This is a veritable climax of absurdity. He says: "The view which seems to me most probable is that Man, or rather primarily Woman, became divested of hair for ornamental purposes, and the man through sexual selection."

I freely and willingly confess that this statement is beyond my range of conception. "For ornamental purposes!" Did it affect all women then alive and at the same time? Or did it affect just a few leading ones first, and then the rest from jealousy? From whence comes this artistic taste?—or, in other words, who was the artist? Was it Woman alone, or was it some mysterious influence from without? Or was it nature? If it was Woman alone, that is incompatible with the idea that primitive Woman was very feebly endowed with intelligence—merely a step above the brutes around her. If it was nature that acted as artist, and pointed out the ugly hair on her skin, how did nature communicate with Woman? From whence came the standard of ornamentation? Why should it be more ornamental to be without hair than with hair? All animals have hair on their bodies, and if Man came from the animal, why should not he have hair also? And, lastly, why was it not all removed?

After carefully thinking this matter over, the only solution of the problem conceivable by me is that the spark of pride having been flashed into the brain of Woman, in some unaccountable and unjustifiable manner (as though nature did not know what was best for her), and from some unknown source, presumably "natural selection," she gazed at her then hairy person and did not like the looks of the hair; did not like the idea of having hair on her body, *i.e.,* so much of it. So she, *in some mysterious way,* got rid of the hair on her body. Mr. Darwin leaves us entirely in the dark as to *how* she did it; whether through the slow and painful process of epilation, or through the mental effect of the shock which was produced by observing her own hairy skin, or by reason of her aversion to the hair and the desire to have it removed, or by the application of quicklime to the skin, we shall

never know. But, in some way, Woman was divested of the hair on her body, *i.e.*, most of it, for ornamental purposes. How about the Man? It was by virtue of "sexual selection," Mr. Darwin says, that Man became divested of the hair on his body. The best definition of this function, "sexual selection," that I have been able to get from Mr. Darwin's writings (and, by the way, you cannot find any mention of such a potentiality in nature anywhere else than in Darwin's writings) is the following: "Sexual selection does not depend on any superiority in the general struggle for life, but on certain individuals of one sex, generally the male, being successful in conquering other males, and leaving a larger number of offspring than do the less successful males."

This definition makes it necessary that one male should conquer every other male representative of the genus *Homo;* and that this one representative should then become divested of the hair on his body, before sexual selection, as defined, could have any effect on the progeny by the hereditary effect. Then this successful Man, the best Man physically then alive, must be the progenitor of all that came after him. How did this first Man, the best Man then alive, procure the removal of the hair from his body? It would be interesting to know this, for in what way could sexual selection operate to bring about the result in his case? Is it reasonable to suppose that one Man could conquer all the rest of the representatives of the genus? Note also the great slur that such a doctrine casts on the personality of womanhood, as though they were cattle.

If this one best Man did not really annihilate all the rest of the men then living, I can only figure it out in this way: The women in their pride having become divested of the hair on their bodies, for purely ornamental purposes, would have nothing to do with a hairy Man. Of course they (the men, poor creatures) did not know the reason of the boycott, and, as Mr. Darwin says the human race could not talk at first, she could not tell them as to the reason of the strike. And even though the women had gone through the process of dehairing and knew how to do it, they could not tell the men how

to proceed, as they could not talk, and, so, with no knowledge of barbering, the condition of the hirsute men is all mystery. What shall this army of rejected men do? What can they do? This one best Man has vanquished all other representatives of the genus *Homo,* and thereby stolen all the women for his own wives. There would be no trouble if they could only solve the mystery and find out the cause of the boycott; but here they are, helpless from the heartless strike of the women. According to Mr. Darwin's idea, after this one best Man could become divested of the hair on his body, by some means—no matter how—all the women would flock to him, of course; and then the rest of those poor stupid, speechless, hairy creatures might possibly recognize the reason for the cold shoulder of Woman being turned against them. After that they could "go and do likewise." Of course, this is only on the supposition that this one best Man had not killed off all the rest; and it is reasonable to suppose that he had not, because of the different races of mankind. But, in the meantime, just think what a sorry time it would be for that one best Man. The only Man in the world the women would associate with. And all this came about because of Woman's pride. Oh, Woman! proud Woman! Mr. Darwin does not tell us how it came out, but, apparently, the problem was solved. Man in some way got rid of the hair on his body, *i.e.,* most of it; and the sexes again became reconciled to each other.

Such is the supposed record of the first successful strike in the history of the world; and a demonstration of the fact, it must now be conceded, that the pride of Woman is indeed one of her primary traits of character; and that when she asserts her prerogative the world moves in response.

Who dares to compete with this Munchausen tale for the prize? Does anybody, whether sane or insane, believe it? It makes the Arabian Nights' Entertainments look like serious history. With such assurance as is here manifested, aided by such a fertile imagination, Man may solve any problem or overcome any difficulty in his mind.

The human mind is so constituted that it is just as

susceptible to error as to truth. A person having heard and believed the erroneous, whether it be a simple statement or a reported scientific truth, may be just as happy, just as contented in the belief of the erroneous doctrine as he would have been in the belief of the truth. Especially is this so if the erroneous statement is reinforced by elaborate and specious arguments, and is in accord with one's own sympathies; or one's own preconceived ideas or notions; or relieves one of responsibilities. If the erroneous statement partakes of the mysterious, occult or supernatural, it is accepted as a truth beyond the comprehension of the great mass of humanity. Apparently such statements will and do captivate a certain class who pride themselves on their scientific acumen, and who would rather avow their belief in and embrace the mysterious, no matter how much it may partake of the occult or supernatural, than to acknowledge the miraculous in the Creator. That is to say, so long as the author of the occult and the mysterious is unannounced, it will be accepted, whether within or without the bounds of reason. But the moment the author of the miraculous is announced as being God, that God is the Creator of the universe, and has performed the miraculous act of creation, with great éclat they at once announce that they do not believe in miracles or the supernatural.

Permit an illustration: Mr. Darwin maintains that by some mysterious, unnamed, inherent power in the simple cell, the moneron, without architect or guide, and only influenced by that uncertain quantity, "natural selection," which he displays as one of the manifestations of nature, it has actually built up to its present perfection the entire animal kingdom, including Man, with all its variations. The process requires the transmuting of fish into reptiles; then the cold-blooded reptiles into warm-blooded birds; and then, in turn, changing birds, whose bones contain air-cells, into animals having marrow in their bones. By a simple wave of his magic wand he gets rid of the crop and gizzard, and in their stead installs an entirely different digestive system; and instead of feathers the animal is covered with hair; and their progeny are brought forth by gestation instead of incu-

bation. A thousand other miraculous changes also are necessitated to complete the supernatural changes. Now, I ask, could there be anything more mysterious, supernatural or miraculous than such a process?—in spite of the fact that no adequate causation is set up! Right here is the whole process of creation of the animal kingdom ascribed to nothing, absolutely *nothing!* Right here the whole series of miracles required to be performed to produce the animal world is performed by the inherent power stored up in that cell, which measures about 1-144,000ths of an inch in diameter; and that cell created *itself* in the beginning by "spontaneous creation."

There are people who prefer to believe such a mass of impossible absurdities, rather than believe that God created the universe.

In the process involved in this evolution, all the inexorable laws of nature, in the reproduction of the animal kingdom, as they are now known, are violated; or they could not have been inaugurated until after the building of the animal world was completed; or else they were abrogated or annulled for a time, but now they are acting and being observed again.

This absurd theory of evolution was promulgated with elaborate and specious arguments; and the doctrine finds ready acceptance by many men, even of liberal education. Men of great learning, in other lines, would rather believe this Munchausen story, with all its absurdities, which ascribes creation to nothing, than to believe in God as the Creator of all things.

Here is a specimen of the reasoning, as given by a very intelligent man: Evolution has produced the entire animal world by natural processes, and there is no miracle about it; but God could not produce the animal world without performing a miracle or a series of miracles. I do not believe in miracles at all; I do not believe there ever was a miracle performed in this world; therefore I believe in evolution.

This is the genuine evolution doctrine, not in the same words that Mr. Darwin uses, but condensed to its nucleus. We are taught that two things that are equal to the same thing are equal to each other. Thousands, per-

haps, accept this statement, or similar ones, as the embodiment of a great, scientific thought; whereas it has not an element of science or truth in it.

The whole trouble with this formula is that they have set up as a premise, an impotent, imaginary something (rather I should say nothing) as a cause. Science declares that evolution is neither a producing cause nor a controlling law; therefore, evolution is incapable of producing anything, neither can it control production. Nature is the creation at large, as distinguished from the Creator. Nature has no creative power, but is the product of some adequate causation lying back of it, and acting by or through laws. In the above proposition there is no adequate cause set up. The premise is wrong; and as a natural result the conclusion is wrong also.

The question arises in my mind: Why should a Man prefer to pin his faith to a mysterious, imaginary impotency, as a cause, rather than to believe in God as the Creator? I cannot answer the question satisfactorily; but a notable circumstance is that all the leading evolutionists have been either atheists, skeptics or infidels. And yet Mr. Darwin says: "I see no good reason why the views given in this volume ("Descent of Man," vol. I) should shock any one."

As an example of what the acceptance of the doctrine and principles advocated by evolutionists, directly traceable to the views given in this volume, will do for any one's religious belief, we would simply point to all persons who *knowingly* accept this doctrine. From the greater to the lesser lights, they are as a rule skeptics. Indeed, it could not well be otherwise, it seems to me, with a man possessed of even a little reasoning power. I grant you there are some who accept the doctrine of evolution, who outwardly profess to believe in the doctrine of Christianity; but there are various reasons for this, among which are, first, "for revenue only"; second, for social reasons, popularity in some circles of society. But at heart they don't believe a word of what they hear taught from the pulpit; or, if they are teachers, what they are called upon to teach. This class is composed largely of teachers, professional and business men. I observe

that there are many teachers who have become enamored with this doctrine, and which by some of them has come to be called a branch of civic science, but which is really and only classified speculation, without the shadow of a scientific basis.

We must accept one or the other of the two doctrines, viz., the doctrine of the direct and special creation by God of each genus, practically as related in the Mosaic account of the creation; or the doctrine of "The Evolution of the Species," according to Darwin. We cannot have a mixture, neither can we have both. If one, either one, is true, the other one cannot be true. If the latter is true, as a matter of course the Mosaic account of the creation is false in every particular. We are then at sea, for the foundation of all scripture is gone, and the whole fabric is to be repudiated as a fraud and a deception. Logically follows the corollary: As Christ accepted and advocated the doctrine of a fraud, he must be a fraud himself.

But I would not give this as a reason why we should not accept the truth wherever it may lead, notwithstanding this is one of the greatest questions that ever confronted Man, viz.: "What will you do with Jesus?" If the doctrine of evolution, as commonly accepted, had any scientific facts or arguments to substantiate it; if there was any proof of its ability to solve the problem of the creation; if it could be substantiated by sound reason, or experience, or experiment; it would then be within the range of possibilities—it might even be among the probabilities, and might be accepted as a *modus operandi* of the Creator in nature. But as the theory is at variance with all the facts of nature, it cannot be accepted as in harmony with either nature or Christianity.

The results of teaching the doctrine of evolution may be seen reflected in the character of the young men educated in our schools and colleges, where the doctrine is taught more or less clearly. And, by the way, I want to say right here that the less clearly this doctrine is taught, the more danger there is in it, the more damage it will do; because if it is thoroughly investigated, the base-

less foundation will be exposed and the delusion will be dissipated.

In the city of Boston there are ninety thousand young men between the ages of twenty and thirty-five years of age; eighty thousand of these have no religious beliefs, and do not attend church at all. In the city of Cincinnati there are twenty-two thousand young men of similar ages, of whom twenty thousand make no profession of any belief religiously. No doubt other cities will show proportionately the same results upon investigation. From observation it is the same wherever you go. It may not be that the teaching of the doctrine of evolution is the sole cause for such a state of affairs; but education is a powerful factor in the building of character. The character is apt to follow along the lines of education. With the acceptance of the doctrine of evolution, carried to its ultimate, the incentive to morality is largely removed. The person naturally thinks he has avoided or shifted the responsibilities placed upon him by the great plan of the Creator, but he is deceived. "Be not deceived, God is not mocked, whatsoever a man soweth that shall he also reap."

Once to every man and nation comes the moment to decide,
In the strife of Truth with Falsehood, for the good or evil side;
Some great cause, God's new Messiah, offering each the bloom or blight,
Parts the goats upon the left-hand, and the sheep upon the right—
And the choice goes by forever, 'twixt that darkness and that light.

Backward look across the ages, and the beacon-moments see,
That, like peaks of some sunk continent, just through oblivion's sea;
Not an ear in court or market for the low foreboding cry

Of those crises, God's stern winnowers, from whose feet
earth's chaff must fly;
Never shows the choice momentus till the judgment hath
passed by.

Careless seems the great Avenger; history's pages but
record
One death-grapple in the darkness, 'twixt old systems
and the Word;
Truth forever on the scaffold, Wrong forever on the
throne—
Yet that scaffold sways the future, and behind the dim
unknown,
Standeth God within the shadow, keeping watch above
His own.

(J. R. L.)

This book is not intended, primarily, as a plea for Christianity; but as an attempt to give a scientific answer to the question: What is Man? Primarily and secondarily to refute Darwinism on a scientific basis, and, finally, to attempt to solve the great question of human life, from the best lights that we can bring to bear on the subject.

Those phases of the mind and life referred to are intimately connected with our subject and deserve careful notice, not as a criticism, but as a query. We believe creation to be a great, beneficent plan of the Almighty God—the Creator of the universe—and we are trying to fathom it. If the mind is normal, it ought to be able to interpret it aright; for it is not a suitable plan if it is out of the range of the human mind. The first link in the chain of reasoning is the establishment of a Supreme Power of the universe, which we call God. Even Herbert Spencer says God is a necessity, but that he cannot prove His existence. If God is a necessity to sound reason, His existence needs no further proof. This first link once established, the creation naturally follows, as being executed by Him as the only adequate causation.

Evolution is an impotency and explains none of the secrets of nature, and cannot be accepted as the *ne plus*

ultra of creation, or our *raison d'être*. No facts so far registered tend to substantiate the theory. The modification of the species by reason of environment has no bearing whatever on the contention. No Man ever knew of a change of genus to be brought about by a change of environment, but the change of environment may bring about the change of some of the organs of the animal's body—may bring about the atrophy or even the extinction of a non-used organ, as has been noted in the case of the fish in the Mammoth Cave.

The concept of Man which the Book of Genesis gives us is, to my mind, a higher and nobler concept; whether or not it be a complete record of the great event of Man's creation. In this concept we behold Man as the direct product of God's own handiwork; a direct creation and not an accidental development. It contemplates Man as no relative of any form of animal life. Personally, I take issue with biology in calling Man an animal, because God declares that He made Man in his own image; plainly indicating that Man is an entirely different form of life from that of any animal.

Structurally, Man is similar to the animal, the body being composed of the same materials, viz., bones, flesh, and blood; but not the same bones, flesh and blood, as each species may be identified from the other by the bones, flesh and blood. Physiologically, Man is similar to the animal, not because they are relatives, but because all organic life exists under the same natural laws. They all exist by the same means and are perpetuated in the same manner, under the same natural laws. The distinguishing difference between Man and the brute is the soul of Man. This is the ego, Man. Some have contended that the vital principle, the principle that animates the body, is the soul; others that the psychical principle is the soul. It would seem, if the vital principle is the soul, that all animate beings, all forms of life, would have souls. If the life is the soul, then every living thing has a soul; if the mind is the soul, then a demented person has no soul, notwithstanding that he is a human being. Then all human beings have not souls. If Man is the only form of life that is possessed of a soul, then there

must be something different in Man from all other forms of life—entirely and radically different. Descartes said: "Thought is the function of the soul and its only function." Presumably he uses "thought" as the equivalent of consciousness. In our modern phraseology it would mean that the consciousness of Man is the soul of Man. Consciousness includes the abilities of thought, perception, memory, reason, volition, and is susceptible of love, hatred, joy and grief. While these are characteristics of Man's nature, I would not think they were the soul, but simply the emanations of the soul, merely the expression of the mental qualities of the individuality; but please notice that this comes very near being the difference between Man and monkey, as expressed by the difference in the brains of the two species.

The following is a definition of the soul handed to me by an eminent doctor of divinity: "In the universe are two primary substances. Such as is judged of or known by our natural senses is called matter, and is characterized by impenetrability, extension, figure, indestructibility, inertia, attraction. Such as is known by thought, perception, memory, reason and volition, and is susceptible of love, hatred, joy and grief, is called spirit and is no part of the body. The soul of Man is his spiritual, rational part which enables him to think, and which renders moral consciousness possible and makes its possessor subject to moral government, and is immortal." That definition does not get outside of the idea that the mind is the soul, which we think it is necessary to do, else all creatures have souls more or less large or small according to the amount of mentality they have. Perhaps the following may be acceptable as a definition: There is a something whose habitat, probably, is the brain of Man, that has control and direction of the brain and its operations; it is the real personality of the human being, the personal ego, and through the mind, reveals to Man his self-consciousness, without which all the vaunted powers and possibilities and hopes of Man would at once vanish. This is the real distinguishing feature between Man and the brute creation. This is the soul of the human being, and is the governor of

human thought and action, no matter what the character of the thought may be. The brain is the machine by which it is made manifest to the outer world, in the impulse of thought and reason. The soul is purely spiritual, and the brain is purely material; this is where the two elements, spirit and matter, meet and blend. This spirit or soul was received by inheritance from its progenitors; it was born with the life. The propagation of souls has been going on, ever since the creation of Adam, in every child that has been born, by traduction.

The brute has no soul because it has no reasoning faculties to be presided over. It needs no further proof than this to establish the proposition that it is an impossibility that the brute could be the progenitor of Man.

This seems to very clearly differentiate Man from the monkey, and constitutes Man a wholly different being from any of the brute creation. This spiritual being, which is the ego of Man, is the part that is created in the image of God, and is not possessed by or characteristic of a brute, notwithstanding the very great intelligence of some animals.

But, as has already been pointed out, there are many physical characteristics which readily distinguish Man from the brute creation. A notable difference is found in the time that it takes for the young *Homo* to mature, from that of any other genus in the animal kingdom. This fact alone demonstrates a different form of life, even if there were no other distinguishing marks or qualities. The baby chimpanzee walks in a few minutes after its birth, and matures in a few months; inside of a year or two it is a full-grown specimen. The baby *Homo* is the most helpless nursling in the world. For the first year it is utterly helpless; usually takes another year, if not two are required, to learn to walk; and then another year or two to learn to talk; and a score of years to attain to its stature and maturity.

The only record we have of the transaction, whether true or false, is found in Genesis and reads: "God said, let us make Man in our own image. . . . In the image of God created He him; male and female created He them. . . . And the Lord God formed Man of

the dust of the ground, and breathed into his nostrils the breath of life; and Man became a living soul." I note that this is the only instance given in the record of the creation, that God breathed into the nostrils the breath of life. This gives Man his life direct from God.

Whether or not this account is to be accepted as the inspired word of God, it supplies us the only statement we have of Man's origin that is in any way adequate; and is in entire accord with nature and reason. All the facts in nature substantiate this view. I have no quibble or uneasiness as to how long ago, as measured by our years, the great event occurred; but I am interested in the fact that Man is here; and believe he is here as a ward of the Creator, for a purpose.

Now, if there is not a higher life that is in some way to emerge from this life, then all beyond is an absolute void, and a reason for Man's existence here has not been found. If all this apparent preparation is to cease and perish forever with this life, then all this masterful creation and adorning of the universe with all its splendor and magnificence is a farcical fraud, a sickening failure, a purposeless expenditure of energy; as Hume says: "A riddle, an enigma, an inexplicable mystery."

CHAPTER VII

THE ANTIQUITY OF MAN—EUROPE

AMONG the very interesting questions which have puzzled mankind in his reflective moments, since the records of such moments have been kept, if not indeed since the creation of Man, are the following:

I—How did Man come on to this earth?

II—Where did Man first make his appearance on this earth?

III—When did Man first make his appearance on this earth?

IV—For what purpose is he here?

All these questions have been more or less definitely answered, some more definitely than others. Perhaps we may say the first question has had the most definite answer. But the answers are not accepted by all as being satisfactory; some philosophers holding that nothing is known as to how, where or when Man came upon the scene of this world's activities. The question, Why is Man here? seems still more of an enigma, if possible. Many do not believe the answers already given to be true, and so volumes have been written and various theories and opinions have been given on each question. The Darwinian theory of evolution is one of the prominent theories entertained, as a result of discrediting and disbelieving the answers already given.

In the preceding pages good and substantial proof has been adduced that Man could not, and therefore did not, come on to this earth by the scheme of evolution from the lower animal life, as claimed by Darwinism. As there is but one other adequate theory, to the writer's knowledge, at least, of Man's origin extant, viz., that of spe-

cial creation, for that reason among others, we have accepted that as an answer to the first question.

But, as before stated, this theory of special creation is objected to for various reasons; the latest reason that it has been the writer's privilege to see in print is that of a reverend gentleman who has discovered that it is unscientific. The reverend gentleman avows that he cannot believe in creation because it is unscientific.

Of course it must be admitted that the matter of creation cannot be explained by any science, procedure or scientific reasoning of which the human mind is master. Creation involves and includes all the sciences with which Man has any knowledge, and very probably many scientific facts of which Man has no knowledge whatsoever. Creation, *per se,* is the perfection of all scientific mechanism. The physiology of organic life is so supremely scientific that Man, with all his vaunted scientific acumen and accomplishments, has been five thousand years finding out just a few of the grosser facts concerning it. The scientific, architectural and mechanical completeness of the human brain and nervous system, involving mind, reason, ideation, sensation and motor power to execute any and all commands of the soul, is entirely outside of Man's comprehension. The digestive, absorptive and circulatory systems in the animal body are simply scientific enigmas to Man. And then there is the perfect, continuous chemistry and metabolism of the entire organism, any of which manifestations are among the greatest of all scientific problems, and remain to this day only enigmas to Man's boastful scientific acumen. Life is too scientific for the human mind to comprehend even approximately. When these well-known facts are considered, it seems the very climax of presumptuous bigotry for puny Man to have the assurance to say that creation is unscientific. Could mortal man be more absurdly presumptuous?

I think I hear some one say: If the creation story is true, all the scientific investigations that have been going on for the last century, and especially for the last fifty years, amount to nothing, and that there is no incentive to investigation to find out the science of the

universe. It does away with all that field of scientific research. It ties Man up to a mere dictum and does not allow scientific investigation of the subject.

Hold on, my friend—do not go too fast. Is science anything more than truth? No! The ultimatum of science cannot be anything else than truth, possibly illuminated and explained; if it purports to be more than that it is not science, but something else. It has been conclusively shown that Darwin's theory of evolution has no scientific basis; it has not the basis of truth to stand on. It is not science at all, but only speculation. That is where the mistake is made—in confounding speculation with science, and calling something which is not truth the truth, in claiming evolution to be a cause. If the would-be science does not confirm and illuminate the truth, it is not science, but speculation in the field of metaphysics; and just as soon as the doctrine of evolution transcends the field of phenomenal description and claims to give a theory of the productive causes, it becomes metaphysics and must be handed over to philosophical criticism for adjudication.

We grant that, to the finite mind, creation is an impenetrable mystery, unexplained and unexplainable. To the infinite God, we opine, creation is only the expression of His eternal will, and perfectly simple.

Perhaps the greatest objection to creation, as an explanation of the origin of Man, arises from the fact that some people do not and apparently cannot believe it, because they cannot fathom and comprehend it. It is a well attested fact, apparently, that even in this enlightened age, some people who call themselves scientists and doctors, of all sizes and kinds, would rather believe that Man just "grew up spontaneously," than to believe that Man was and is a special creation by the Creator of the universe. Such a mind as that cannot be helped in any way; it is beyond all help by persuasion. What it needs is a few lessons in elementary physics, which teaches, among other primary principles, that there is no effect without an adequate cause.

This world is the concrete expression of an idea that preceded it. That idea was the Creator's idea. The idea,

even with the Creator, had to precede the reality. The idea is the work of the architect; the working out, or the fulfillment of the idea, is the work of the builder (which in this case were the same), and is the concrete expression of an idea enforced by an adequate executive power to bring the reality out of the idea. This adequate executive power was and is none other than the Creator of all things.

Thus the first question is fully and completely answered by the special creation. The idea originated with God, and He said: "Let us make Man in our own image." And scripture adds: "God created Man from the dust of the ground and breathed into his nostrils the breath of life, and Man became a living soul."

The answers to the other three questions will be considered in the following pages.

The antiquity of Man has not been arrived at with any certainty, although it is generally conceded by geologists and other scientific investigators that Man came into being not earlier than the glacial period; but there is nothing to show how soon, or how long after that period he came. Lyell, in his "Antiquity of Man," says: "From the geological standard the date of his birth is exceedingly modern."

Writers on the antiquity of Man have differed in their estimates very greatly, varying all the way from a little less than six thousand years to about three millions years. So nothing definite is brought out in all these estimates; at best they are only guesses, more or less astute.

The antiquity is shrouded in even greater mystery than the origin of Man. The oldest date that the literature of any nation or people can give us is that of Egypt, claimed to be 3,500 years B.C. But, without doubt, that date is perhaps centuries before or after Man's advent on this earth. Man was well advanced in architecture and mechanics at this supposed date, or at this period, whether the date is correct or not. (Late Assyriologists give the date of clay tablets found at Babylon as 4,500 years B.C.; but this date is as uncertain as the dates of Egyptologists, who vary in their estimates all the way from 13,000 to 2,700 years B. C.) Learning and civili-

zation had progressed so far that a written language was then used to record the history of this people. Before this time hieratic characters had been used by the priests only, in writing, for a period of time we know not how extended, and was elaborated into the more complete system of hieroglyphics, to be followed in time by the written language. It must, however, be remembered that their written language was only an extended or modified hieroglyphics, at best.

The time that must have elapsed from the creation of Man up to the time this record was made we have no means of knowing, and allowing that this date of 3,500 years B. C. is approximately correct, it takes us back 1,151 years beyond the date set for the flood. More will be said on this subject further along.

Dr. Prichard says: "Many writers who have by no means been inclined to raise objections against the authority of the sacred scriptures, and in particularly Michaels, have felt themselves embarrassed by the shortness of the interval between the Noahacic Deluge and the period at which the records of various nations commence, or the earliest date to which their historical memorials lead us back. The extravagant claims to a remote and almost fathomless antiquity, made by fabulists of many ancient nations, have vanished before the touch of accurate criticism; but after abstracting all that is apparently mythological from the early traditions of the Indians, Egyptians and some other nations, the probable history of some of them seems to reach up to a period too remote to be reconciled with the short chronology of Usher and Petavius. This has been so universally felt by all those writers who have entered on the investigation of primeval history that it is superfluous to dwell upon the subject."

Sir John Lubbock, Bart., says: "Baron Bunsen, one of the ablest among those who regard the various forms of language as having had a common origin, is forced to claim for the human race an antiquity of at least 20,000 years. I have often been struck, when standing at the feet of glaciers, by the great size of the terminal moraines, and at the length of time which must have been required

for their formation. Let us take as an instance the Nigard glacier in the Justedal, on the Sognefjord. The Norwegian glaciers no doubt covered formerly a much larger area than that which they now occupy. They retreated as the cold diminished; but we have seen that Man was present in Western Europe when the general temperature was several degrees at least lower than at present; and we shall possibly, therefore, be within the mark if we suppose that the glacier at Justedal has retreated at least a mile up the valley since the period of the river-drift gravels, and the entrance of Man into Europe. Now, the terminal moraine of the glacier covers the whole of this space with great blocks of stones, thousands and hundreds of thousands in number, and yet, although all of these have probably been brought down in the human period, I could only see a few blocks on the lower end of the glacier itself. As far as Denmark is concerned, we must, for the present, rely principally on the double change which has taken place in the present vegetation. Beech forests are now the pride of the country, and, as far as tradition goes, they have always been so. But, as is shown by the peat-bogs, this is a mistake. The large peat-mosses do not help us very much in this matter, but there are in many of the forests small and deep depressions, filled with peat, and called skov-mose. These, as might naturally be expected, contain many trees which grew on the edges, and at length fell into them. At the bottom of them is usually an amorphous peat, above is a layer of pines—a tree which does not grow naturally in Denmark. Higher up the pines disappear and are replaced by oaks and white birches, neither of which are now common in Denmark; while the upper layer consists principally of the Betule Verrucosa and corresponds to the present, which we may call the beech period. Professor Steenstrup has found stone implements among the stems of the pines; and as the caper cailzie, which feeds on the young shoots of the pine, has been found in the Kjokkenmoddings, it seems likely, to say the least, that these shell-mounds belong to the pine period, and that the three great stages of civilization correspond in some measure to these three

periods of aborescent vegetation. For one species of tree thus displaces another, and in turn to be supplanted by a third, would eventually require a great—though at present we have no means of measuring how great—lapse of time.

"Turning now from Denmark to Switzerland, there are two cases in which a more definite estimate has been attempted. We must not, indeed, place too much reliance on them as yet, but if many calculations made on different plans and data shall agree in the main, we may at length come to some approximate conclusion.

"The first of these calculations we owe to M. Marlot. The torrent of Tiniere, at the point where it falls into the lake of Geneva, near Villeneuve, has gradually built up a cone of gravel and alluvium. In the formation of the railway this cone has been bisected for a length of one thousand feet, and to a depth, in the central part, of about thirty-two feet six inches above the level of the railway. The section of the cone thus obtained shows a very regular structure, which proves that its formation was gradual. It is composed of the same materials (sand, gravel and large blocks) as those are even now brought down by the stream. The amount of detritus does, indeed, differ considerably from year to year, but in the long run the differences compensate for one another, so that, when considering long periods and the structure of the whole mass, the influence of the temporary variations, which arise from meteorological causes, altogether disappear, and need not, therefore, be taken into account. Documents preserved in the archives of Villeneuve show that in the year 1710 the stream was dammed up, and its course altered, which makes the present cone slightly irregular. That the change was not of any great antiquity is shown by the fact that on the side where the cone was protected by the dykes, the vegetable soil, where it has been affected by cultivation, does not exceed two or three inches in thickness. On the side thus protected by the dykes and the railway, cutting has exposed three layers of vegetable soil, each of which must, at one time, have formed the surface of the cone. They are regularly intercalated among the gravel and parallel to one another,

as well as to the present surface of the cone, which itself follows a very regular curve. The first of these ancient surfaces was traced on the south side of the cone over a surface of 15,000 square feet. It had a thickness of four to six inches, and occurred at a depth of about four feet below the present surface of the cone. This layer, which belonged to the Roman period, contained tiles and a Roman coin.

"The second layer was traced over a surface of 25,000 square feet; it was six inches in thickness, and lay at a depth of about ten feet, including the thickness of the layer. In it have been found several fragments of unglazed pottery, and a pair of tweezers in bronze. The third layer has been traced for 3,000 square feet; it was six or seven inches in thickness, and lay at a depth of nineteen feet below the present surface. In it were found some fragments of very rude pottery, some pieces of charcoal, some broken bones, and a human skeleton with a small, round and very thick skull. Fragments of charcoal were even found a foot deeper, and it is also worthy of notice that no trace of tiles was found below the upper layer of earth.

"Towards the center of the cone the three layers disappear, since at this part the torrent has the most force, and has deposited the coarsest material, even some blocks as much as three feet in diameter. The farther we go from this central region, the smaller are the materials deposited, and the more easily might a layer of earth, formed since the last inundations, be covered over by fresh deposits. Thus at a depth of ten feet, in the gravel on the south of the cone, at a part where the layer of earth belonging to the bronze age had already disappeared, two unrolled bronze implements were discovered. They had probably been retained by their weight, when the earth which once covered them was washed away by the torrent. After disappearing towards the center of the cone, the three layers reappear on the north side, at a slightly greater depth, but with the same regularity and the same relative position. The layer of the stone age was but slightly interrupted, while

that of the bronze era was easily distinguished by its peculiar character and color.

"It must be confessed that the starting point of this argument, viz., the so-called 'Roman' layer, is far from being satisfactorily determined. It is quite possible that the tiles were used in Switzerland before the Roman period; it is probable that they continued in use to a later period. The coin found in the Roman layer was so much worn as to be undeterminable; it had, therefore, probably been long in use. M. Uhlmann has argued that the bones found in the lower layer are not such as we should expect to find in a stone age deposit, since they are not so much discolored as those from the stone age Pfahlbauten, and all belong to domestic animals. Only fourteen determinable fragments, however, were found, and these several probably belonged to a single individual. Moreover, the condition of the bones from a peat-moss cannot fairly be compared with those which had been lying in a material such as that forming the cone of the Tiniere.

"M. Marlot did not disguise from himself that there were certain elements of doubt in the case; but on the whole it seemed to him that the phenomena were so regular and so well marked that he was justified in applying to them a calculation with some little confidence of at least approximate accuracy. Making some allowances, for instance, admitting three hundred years instead of one hundred and fifty for the period since the embankment, and taking the Roman period as representing an antiquity of from sixteen to eighteen centuries, he obtains for the age of bronze an antiquity of from 2,900 years to 4,200 years; for that of the stone period from 4,700 to 7,000 years; and for the whole cone an age of from 7,400 to 11,000 years. M. Marlot thought that we should be most nearly correct in deducting two hundred years only for the action of the dykes, and in attributing to the Roman layer an antiquity of sixteen centuries; that is to say, in referring it to the middle of the third century. This would give an antiquity of 3,800 years for the bronze age, and 6,400 years for the stone; and, on the whole, he is inclined to suppose for the former an

antiquity of from 3,000 to 4,000 years, and for the latter of from 5,000 to 7,000 years."

It would really seem that the data from which the computations of time are made are so nearly related to guesswork, and then the conclusions were so loosely drawn as to render them worthless in determining the antiquity of Man in Europe.

The history of the human remains from the cavern in the Neanderthal may best be given in the words of their original describer, Dr. Schaaffhausen, as translated by Mr. Busk:

"In the early part of the year of 1857, a human skeleton was discovered in a limestone cave in the Neanderthal, near Hochdal, between Dusseldorf and Elbenfeld. . . . Dr. Fuhlrott, to whom science is indebted for the preservation of these bones, which were not at first considered as human, and into whose possession they afterwards came, brought the cranium from Elbenfeld to Bonn, and entrusted it to me for more accurate anatomical examination. At the general meeting of the Natural History Society of Prussian Rhineland and Westphalia, at Bonn, on the second day of June, 1857, Dr. Fuhlrott himself gave a full account of the locality, and of the circumstances under which the discovery was made. He was of the opinion that the bones might be regarded as fossil; and on coming to this conclusion, he laid special stress upon the existence of dendritic deposits with which their surface was covered, and which were first noticed upon them by Professor Mayer. To this communication I appended a brief report on the results of my anatomical examination of the bones. The conclusions at which I arrived were: First, that the extraordinary form of the skull was due to a natural conformation hitherto not known to exist, even in the most barbarous races. Second, that these remarkable human remains belonged to a period antecedent to the time of the Celts and Germans, and were in all probability derived from one of the wild races of Northwestern Europe spoken of by Latin writers; and which were encountered as autochthones by German immigrants. Third, that it was beyond doubt that these human relics were traceable to a period at

which the latest animals of the diluvium still existed; but that no proof of this assumption, nor, consequently, of their so-termed fossil condition, was offered by the circumstances under which the bones were discovered.

"As Dr. Fuhlrott has not yet published his description of these circumstances, I borrow the following account of them from one of his letters. A small cave or grotto, high enough to admit a man, and about fifteen feet deep from the entrance, which is seven or eight feet wide, exists in the southern wall of the gorge of the Neanderthal, as it is termed, at a distance of about one hundred feet from the Dussel, and about sixty feet above the bottom of the valley. In its earlier and uninjured condition, this cavern opened upon a narrow plateau lying in front of it, and from which the rocky wall descended almost perpendicularly into the river. It could be reached, though with difficulty, from above. The uneven floor was covered to a depth of four or five feet with a deposit of mud, sparingly intermixed with rounded fragments of chert. In the removing of this deposit, the bones were discovered. The skull was first noticed, placed nearest the entrance of the cavern; and farther in, the other bones, lying in the same horizontal plane. Of this I am assured, in the most positive terms, by two laborers who were employed to clear out the grotto, and who were questioned by me on the spot. At first no idea was entertained of the bones being human, and it was not till several weeks after their discovery that they were recognized as such by me and placed in security.

"But, as the importance of the discovery was not at the time perceived, the laborers were very careless in collecting, and secured chiefly only the larger bones; and to this circumstance it may be attributed that fragments merely of the probably perfect skeleton came into my possession.

"After an exhausted comparison of the Neanderthal cranium with that of many others, both ancient and modern, Prof. Schaaffhausen thus concludes: 'But the human bones and cranium from the Neanderthal exceed all the rest in those peculiarities of conformation which lead to the conclusion of their belonging to a barbarous and sav-

age race. Whether the cavern in which they were found, unaccompanied with any trace of human art, was the place of their interment, or whether, like the bones of extinct animals elsewhere, they had been washed into it, they may still be regarded as the most ancient memorial of the early inhabitant of Europe.'"

Prof. Huxley, from whose work the quotation is made, follows this with a long discussion in which he is trying hard to show by the peculiarity of the shape of this Neanderthal cranium that these remains were those of a primitive stock of mankind more closely related to the ape than Man is nowadays; he evidently gives it up as a bad job when he says, further along in the discussion of the case: "In no sense, then, can the Neanderthal bones be regarded as the remains of a human being intermediate between men and apes. In conclusion, I may say that the fossil remains of Man hitherto discovered do not seem to me to take us apparently nearer to that lower pithecoid form, by the modification of which he has probably become what he is. And considering what is now known of the most ancient races of men; seeing that they fashioned flint axes and knives and bone-skewers of much the same pattern as those fabricated by the lowest savages at the present day, and that we have reason to believe the habits and modes of living of such people to have remained the same from the time of the Mammoth and the Tichorine Rhinoceros till now, I do not know that this result is other than might be expected. Where, then, must we look for primæval Man? Was the oldest *Homo sapiens* pliocene or miocene, or yet more ancient?"

The above quotation has been introduced to show, particularly, the antiquity of Man in Europe. Notwithstanding no estimate has been given as to the age in which lived the Man whose skeleton furnished the Neanderthal specimen, it is evident that Prof. Huxley considered the remains to have been very ancient, possibly of the pliocene, miocene, or even an earlier date.

The foregoing illustrate a few of the mile-stones in the record of the antiquity of Man in Europe, as found in the earth's crust. They are records not made by the hand

of Man, and, therefore, probably not contaminated in any way, until it comes to the interpretation, as to the years that have passed since the death of these men whose skeletons have been thus found. In these cases there are absolutely no data to give any kind of a cue by which the time may be estimated, and, of course, the time can only be guessed at; it might be closely approximated or not. It has been estimated with much liberality in results; they place Man in Europe at from 3,800 years to 9,500 years B.C.

It is not probable that Europe was the cradle of the human race, for several reasons. The first is climatic. The climate would be too rigorously cold in the winter season for primitive Man to endure, inasmuch as it is estimated that he did not know enough to build a fire for several centuries, which would include many generations. Secondly, there would be nothing for him to subsist on for at least eight months out of the year. Thirdly, historical evidences are thought to show that Europe was sparsely settled when the East was densely populated.

The dispersion of the race could not have taken place from Europe, as the birthplace and center, with the results as history first finds the races of men. Historical evidences seem to show conclusively that civilization had far advanced in Egypt, at least, at the time when it is thought the first human form arrived from the East into Europe. Then the race of people who are thought to have been the first in Europe could not have been the ancestors of the Eastern peoples.

Sir John Lubbock, Bart., observes: "We must not, indeed, attach too much importance to these calculations; but they appear to indicate that at least 6,000 to 7,000 years ago Switzerland was already inhabited by men who used polished stone implements; but how long they had been there, or how many centuries elapsed before the discovery of metal, we have as yet no evidence to show.

"These figures, however, only give us a minimum, and a much greater antiquity was obtained by Mr. Horner as the result of his Egyptian researches, which were undertaken at the joint expense of the Royal Society of the

Egyptian Government. Every year the Nile, during its periodic overflow, deposits a certain amount of fine mud, and even at the time of Herodotus it was inferred that Egypt had formerly been an arm of the sea, filled up gradually and became converted into dry land by the mud brought down from the upper country."

CHAPTER VIII

THE ANTIQUITY OF MAN—EGYPT—SCIENTIFIC ORIGIN OF LANGUAGE—EGYPTIAN LITERATURE—MAN'S PRESENT STATUS BEGUN

CONTINUING, Sir John Lubbock says: "In the great work on Egypt which we owe to the French philosophers who commanded Napoleon's expedition to that country, an attempt was made to estimate the secular elevation thus produced, *i.e.*, by the annual deposit of mud from the overflow of the Nile, and it was assumed to be five inches in a century. This general average was consistent, however, with great differences at different parts, and Mr. Horner, therefore, did not consider himself justified in applying this estimate to particular cases, even if he had been satisfied with the evidence on which it rested. He preferred to examine the accumulation which had taken place round monuments of known age, and selected two—namely, the obelisk at Heliopolis and the statue of Rameses II, in Memphis. The obelisk was 'erected 2,300 years B.C., and adding 1850, the year when the observation was made, we have 4,150 years in which the eleven feet of sediment were deposited, which is at the rate of 3.18 inches in a century.' But Mr. Horner himself admits that entire reliance cannot be placed on the conclusion, principally because it is possible that the site originally chosen for the temple and city of Heliopolis was a portion of land somewhat raised above the level of the rest of the desert. He relies, therefore, principally on the evidence supplied by the colossal statue in Memphis. In this case the present surface is ten feet six and three-quarter inches above the base of the platform on which the statue stood.

"Assuming that the platform was sunk fourteen and

three-quarter inches below the surface of the ground at the time it was laid, we have a depth of sediment from the present surface to that level of nine feet four inches. Rameses reigned between 1394 and 1328 B.C., which would give an antiquity of 3,215 years, and consequently a mean increase of 3½ inches in a century. Having thus obtained an approximate measure of the rate of deposit in that part of the Nile Valley, Mr. Horner dug several pits to a considerable depth, and, in one of them, close to the statue and at a depth of thirty-nine feet, a piece of pottery was found, which upon the above data would indicate an antiquity of about 13,000 years.

"In many other excavations pieces of pottery and other indications of Man were found at even greater depths, but it must be confessed that there are several reasons which render the calculations somewhat doubtful. For instance, it is impossible to ascertain how far the pedestal of the statue was inserted into the ground; Mr. Horner has allowed fourteen and three-quarter inches, but if it was deeper, the rate of deposition would be diminished and the age increased. On the other hand, if the statue was on raised ground, of course the reverse would be the case."

Right here I wish to notice that Mr. Adhemar claims that the last epoch of greatest cold must have been 11,100 years ago, since which time the climate of our hemisphere gradually improved up to the year 1246 A.D., when it was most genial, and after which date it has, in his opinion, gradually deteriorated.

So far as the writer has seen, it has not been decided whether the last glacial period was on the northern or southern hemisphere; but it is claimed that those periods alternate between the northern and southern hemispheres. Mr. Adhemar says: "It is in the northern hemisphere that I find the greatest evidence of alternation." He dwells much on the increase, during the last few centuries, of the ice in Greenland, and points out that "the vine cultivation does not extend so far northwards as was once the case." As Greenland is in the northern hemisphere, and the cold is increasing there, it would seem to show that the northern hemisphere would be the

next in turn to be ice-capped for some centuries. The point I wish to make is this: It is hardly possible that Man made his advent on this earth before the last glacial period and withstood those rigorous times, unless it be granted that the ice-cap did not extend to the equator; but rather it could not have come close enough to the equator to influence the temperature there appreciably. It is evident that estimates giving to Man an almost fathomless antiquity may be quite unreliable; indeed, it may be safely said that any estimate that carries us back beyond the glacial period is very probably erratic.

The history of Egypt is thought to date back to the most remote antiquity of Man. The earliest Egyptians of which we have any knowledge are said to have believed that there had been a time when their ancestors were savages and cannibals, dwelling in those caves in the ridges of sandstone which border the valley of the Nile on the east; and that their greatest benefactors were Osiris and Isis, who raised them into a devout and cultivated and civilized people; eating bread, drinking wine and beer, and planting the olive. For this reason the worship of Osiris and Isis as gods became general throughout Egypt. According to Manetho, a native Egyptian historian of the later days of antiquity, the first rulers of Egypt were gods, spirits, demigods and manes, or human souls; which amounts to saying that the earliest history of Egypt, like that of most other countries, is unknown, or involved in the obscurity and uncertainty of legend or fable.

"The history of this great ancient people has been derived from several sources; the historical writings of the ancient Greek historians, Herodotus and Diodorus, and the native Egyptian priest, Manetho, and in modern times from the deciphering of the inscriptions on the Egyptian monuments and from the discovery of records on rolls of papyrus found in the tombs.

"The ancient sources of Egyptian chronology are obscure and conflicting; the Roman historians represented the Egyptians as the first race of men. When Herodotus visited Egypt, about the middle of the fifth century before Christ, the native priests read to him, from rolls of papy-

rus, the names of three hundred and forty-one kings, from Menes, the founder of the monarchy, to Seti. In the great temple of Thebes the priests showed Herodotus the wooden images of three hundred and forty-five priests, who, from father to son, had held the sacerdotal office during the reigns of those kings. From these data Herodotus estimated the antiquity of Egypt to have been nearly twelve thousand years, counting three hundred and forty generations from Menes to Seti, with three generations to each century, and reckoning a century and a half from the beginning of Seti's reign to the Persian conquest of Egypt, 525 B.C., which latter event had occurred about seventy-five years before the visit of the 'father of history' to this celebrated land. According to this computation, based upon the recorded traditions of the Egyptian priests, the founding of the Egyptian monarchy by Menes occurred more than 12,500 years before Christ.

"In the third century before Christ, Manetho compiled a history of his country in three volumes, giving the reigns of all the kings from the founding of the monarchy by Menes to the first Persian conquest of Egypt, 525 B.C., through twenty-six dynasties, and through four more dynasties until the final Persian conquest in 347 B.C., making thirty dynasties in all. According to Manetho's calculation, the founding of the kingdom by Menes occurred in the year 5706 B.C., in the Egyptian reckoning, and in the year 5702 B.C. of the Julian calendar.

"In the past century the world's knowledge of this famous land has been immensely extended by the discovery of the art of deciphering the inscriptions which this ancient people lavishly carved on their buildings and monuments, particularly their obelisks, painted on the frescoed insides of their tombs, and actually cut on nearly all objects of art or use. These writings and carvings were in the character of what is known as hieroglyphics, a Greek word signifying sacred carvings or priestly writing. The knowledge of the reading of these inscriptions perished with the decay of ancient Egypt, and for centuries the term hieroglyphics was synonymous with everything mysterious.

"The unveiling of this mystery was brought about by an interesting incident. During Bonaparte's invasion of Egypt in 1798, a French engineer, while engaged in digging the foundation of a fort near the Rosetta mouth of the Nile, discovered a stone tablet about three feet long, on which was carved an inscription in three different characters. This tablet has become celebrated as the Rosetta Stone. The lower of the three texts was Greek, and easily translated; the upper text was in the hieroglyphic style, while the middle text was in a character since styled demotic, meaning the writing of the common people.

"Copies of this inscription were circulated among the learned men of Europe, and after long and patient efforts the alphabet of the hieroglyphics was discovered; so that these carved inscriptions on old Egyptian works of art and architecture can now be easily and correctly read, thus giving an abundance of new light on the history of this wonderful land of antiquity. The Rosetta Stone was carved about 196 B.C., and was an ordinance of the Egyptian priests decreeing honors to Ptolemy Epiphanes, one of the famous Greek dynasty who governed Egypt during the first three centuries before Christ, and accounts for the existence of the three texts on the tablet. The great task of deciphering these inscriptions was chiefly the work of the noted French savant, Champollian. The key to the deciphering of the inscriptions on the Rosetta Stone was that it was stated in the Greek, that the last was a transcription of the first two. The Rosetta Stone is now in the British Museum.

"On account of the obscurity and uncertainty of early Egyptian chronology, modern historians and Egyptologists have widely differed as to the antiquity of this most ancient monarchy. The French Egyptologists, headed by M. Mariette, place the founding of the first dynasty by Menes at 5004 B.C. The German Orientalists and Egyptologists differ, Bockh fixing the date at 5702 B.C., Dr. Brugsch at 4455 B.C., Lauth at 4157 B.C., Prof. Lepsius at 3892 B.C., Baron Bunsen at 3059 B.C., and Dr. Duncker at 3233 B.C. The English Egyptologists, at the head of whom stands Sir Gardner Wilkinson, regard the

year 2700 B.C. as about the approximate date." (Lib. of Univ. His.)

From the foregoing it will be seen that even the historical age of Egyptian habitation by Man is only approximately known in years. Technically it is unknown, and practically it is involved in the mazes of conjecture; to say nothing of their prehistoric habitation of the country. Nevertheless, Egypt has been an object of interest to mankind in every age, as the birthplace of civilization and science. We find them a highly civilized people at the earliest dawn of history. It would necessarily seem that civilization was somewhat advanced when the first monarchy was formed. Menes was succeeded by Ateta, his son, who was skilled in medicine, and wrote works on anatomy, of which portions still exist and are regarded as the oldest writings on the subject, so said. The Egyptian priesthood embraced an order including many professions and occupations. They alone were acquainted with the arts of reading and writing and with medicine and other sciences. They cultivated the science of medicine from the earliest ages. The universal practice of embalming was exercised by physicians, thus enabling them to study the effects of various diseases by examining the body after death. History tells us that it was the custom of Asiatic monarchs to send to Egypt for their physicians, and the fertile soil of the Nile Valley at one time furnished drugs for the whole civilized world. Even in our own time, the characters used by druggists to denote drachms and ounces are the Egyptian ciphers, adopted by the Arabs, and by them transmitted to posterity.

Perhaps the people of to-day, especially in Europe and America, would not consider the ancient Egyptians as a civilized people, but the eminent German Egyptologist, Brugsch, says: "The Egyptians had a high moral standard. The forty-two laws of Egyptian religion contained in the 125th chapter of the Book of the Dead, fall short in nothing of the teachings of Christianity." The same authority says: "Moses in compiling his code of laws did only translate into Hebrew the religious precepts

which he found in the sacred books of the Egyptians, among whom he had been brought up.

"In the narrow strip of country, 'The gift of the Nile,' only seven miles wide, and five hundred and twenty-six miles long, were seven millions of inhabitants. The Nile Valley is studded with the ruins of ancient cities. Memphis, the chief city of Middle Egypt, was situated about twelve miles south of the apex of the delta, and, as has been said, was founded by Menes, the first Egyptian king. In the vicinity of Memphis are located the most splendid of the pyramids, which extend for seventy miles on the west bank of the Nile, and among which are the famous Pyramids of Ghizeh. In this vicinity is also the great Sphinx, or woman-headed lion, one hundred and forty-six feet long and thirty-six feet wide across the shoulders. Here are also the ruins of the famous labyrinth, and miles on miles of rock-hewn temples. The magnificent and stately Thebes, the one-hundred-gated city of Upper Egypt, is said to have extended over twenty-three miles along the river banks. On its site are the villages of Karnak and Luxor, where the ruins of magnificent and spacious temples, splendid palaces, colossal statues, avenues of obelisks and lines of sphinxes, tombs of kings hewn out of the solid rock, subterranean catacombs and the gigantic statue of Memnon, still bear witness to the immense size and splendor of this great and celebrated city, whose ruins extend for miles along both banks of the Nile.

"The ancient Egyptians had a wonderful instinct for building, and architecture was the greatest of all their arts. The distinguishing features were massiveness and grandeur, in which they have never been surpassed. This great people delighted in pyramids, sphinxes, obelisks and stupendous palaces and temples, with massive columns and spacious halls of solemn and gloomy grandeur, in which our largest cathedrals could stand, adorned with elaborately sculptured colossal statues, and connected with which were avenues of sphinxes and lines of obelisks. Their pyramids are the oldest, as well as the largest and most wonderful of human works yet remaining, and the beauty of their masonry, Wilkinson declares,

has never been surpassed. An obelisk of a single stone now standing in Egypt weighs three hundred tons, and a colossus of Rameses the Great, nearly nine hundred tons; and Herodotus describes a monolithic temple weighing five thousand tons, which was carried hundreds of miles on sledges, as were the huge blocks of stone, sometimes weighing sixteen thousand tons each, with which the pyramids were built. In one instance two thousand men were employed three years in conveying a single stone from the quarry to the structure in which it was to be placed. There is a roof of a doorway at Karnak covered with sandstone blocks forty feet long. Sculpture and bas-reliefs, thirty-five or forty centuries old, in which the granite is cut with exquisite delicacy, are yet to be seen throughout this famous land. The pyramids were all built on strictly scientific and mathematical principles.

"The obelisks, so called on account of their peculiar shape, were tall and slender monoliths erected at the gateways of temples, one standing on each side. From the quarries of Syene they were floated down the Nile on rafts during an annual overflow. They were formed in accordance with a certain rule of proportion, and were from twenty to one hundred and twenty-three feet high. The names and titles of the kings who erected them were recorded in hieroglyphic carvings on the sides. An obelisk at Luxor was taken to Paris in 1833 and erected in the Place de la Concorde. Several others had previously been removed to Rome. Two famous obelisks, after standing eighteen centuries at the gate of the temple of the sun at Heliopolis, where they had been erected by King Thothmes III, were removed to Alexandria by the Romans just after their conquest of Egypt, in the time of Augustus Cæsar. These were known at Alexandria as Cleopatra's Needles, and one was transported to London a few years ago. The other was shortly after transported to New York, and is now one of the objects of interest greeting the eye of the beholder in Central Park.

"Egypt, renowned for its discoveries in art and science, was the ancient world's university, where Moses, Lycurgus and Solon, Pythagoras and Plato, Herodotus and

Diodorus—lawgivers, philosophers and historians—were students. The ancient Egyptians had made considerable progress in the sciences, particularly astronomy, geometry, arithmetic, medicine and anatomy. Their knowledge of astronomy is proven by the accuracy with which they calculated solar and lunar eclipses; by their mode of reckoning time and their knowledge of the length of the year as being three hundred and sixty-five days; by their knowledge of the spherical shape of the earth; and by their ability to compute latitude and longitude, as determined by the fact that the tomb of Cheops, Suphis, or Kufu, the king who built the largest of the three great pyramids of Ghizeh, is located exactly on the 30th parallel of north latitude.

"The ancient Egyptians had attained great skill in many of the finer mechanical arts, such as pottery, the manufacture of glass and porcelain; dyeing and the making of linen and cotton goods; they likewise excelled in polishing and engraving of precious stones, and metallurgy. Their walls and ceilings were painted in beautiful patterns, which moderns yet imitate; and in the production of useful and ornamental articles they have never been surpassed, either in ancient or modern times.

"The language of the ancient Egyptians was related to the language of the Semitic nations, but differed from them in many particulars. There were different dialects in Upper and Lower Egypt.

"The Egyptians practiced the art of writing far more extensively than any other ancient people. The pyramids and monuments, even of the most remote antiquity, bear inscriptions, and it was the custom to mark every article of use or ornament. There are three kinds of writing in use. For monumental inscriptions hieroglyphics were used. For documents the writing was executed on leaves of papyrus. The writing was executed with a reed pen. The hieroglyphics were traced in black, but commenced in red, and the sculptured hieroglyphics were also embellished with colors. Much of the ancient literature has come down to us in a fragmentary form. The remnants of papyrus manuscripts of the most an-

cient Theban dynasties are still in existence. The professional scribes were the priestly class.

"The ancient Egyptians surpassed all other nations in their love for recording all human events and actions. They preserved in writing, on papyrus, a record of all the details of private life with surprising zeal, method and regularity. Every year, month, week and day had its record of transactions. This inclination fully accounts for Egypt being the monumental land. No other human records—whether of Chaldea, India or China—go as far back into the remote antiquity as do those of Egypt."

Baron Bunsen says: "The genuine Egyptian writing is fully as old as Menes, the founder of the old empire. In spite of the ravages of time, and though systematic excavation has scarcely yet commenced, we possess chronological records of a date prior to any period of which manuscripts are preserved, or the art of writing existed in any other quarter.

"The most ancient mural paintings reveal a state of the arts of civilization so perfect as to excite the wonder of archæologists, who therefore knew how few things are new under the sun. We find houses with doors, windows and verandas, likewise barns for grain, vineyards, gardens, fruit trees, etc. We also see pictures of marching troops, armed with spears and shields, bows, slings, daggers, axes, maces and the boomerang. We also notice coats of mail, standards, war-chariots, and the assault on forts by means of scaling-ladders.

"The ancient Egyptian tombs likewise exhibit scenes of domestic life and customs similar to those of our own times. We observe monkeys trained to gather fruit from the trees in an orchard, houses furnished with a great variety of chairs, tables, ottomans, carpets, couches, as elegant and elaborate as any used at the present day. There are also comic pictures of parties, where ladies and gentlemen are sometimes represented as being the worse for wine; of dances, where ballet-girls in short dresses perform pirouettes of the modern kind; of exercises in wrestling, games of ball, games of chance like chess or checkers, throwing knives at mark; of modern thimble-rig, wooden dolls for children, curiously carved

wooden boxes, dice and toy-balls. We have likewise presented to our view men and women playing on harps, flutes, pipes, cymbals, trumpets, drums, guitars and tambourines. We find glass to have been in general use by this great people nearly four thousand years ago, and we see painted pictures of glass-blowing and glass bottles. The most skilful Venetian glass-workers of to-day cannot rival some of the old Egyptian glass-work; as the Egyptians could combine all colors in one cup, place gold between two surfaces of glass, and finish in glass details of feathers, which cannot be distinguished without the microscope. The Egyptians likewise imitated with success the colors of precious stones, and were even able to make statues thirteen feet high, closely resembling an emerald. They made mosaics in glass of colors of wonderful brilliancy. They were able to cut glass in the most ancient periods. They could spin and weave and color cloth, and understood the use of mordants, as in modern calico printing. They tanned leather and made shoes; and the shoemakers are represented as working on their benches precisely as in our own day. Their carpenters used axes, saws, chisels, drills, planes, rulers, plummets, squares, hammers, nails, and hones for sharpening. They likewise knew the use of glue in cabinet-making, and there are paintings in veneering, in which a piece of thin dark wood is fastened by glue to a coarser piece of wood. Their boats were propelled by sails on yards and masts, as well as by oars. They used the blow-pipe in making gold chains and ornaments. They had gold and silver rings, and also used gold and silver for money, and weighed them accurately on carefully constructed scales. Their hieroglyphics are carved on the hardest granite, so delicately and accurately as to indicate the use of metallic cutting instruments harder than our best steel. The siphon was known to these people as early as the fifteen century before Christ. In the tombs are found sandals, shoes and low boots, some of them elegant. Loose robes, ear-rings, finger-rings, bracelets, armlets, anklets and gold necklaces were worn by women. Vases for ointments, mirrors, combs, needles, etc., are found in the tombs. The prevalence of the pass-

port system is also shown by the careful descriptions of the persons contained in the deeds, precisely in the same style as those required by travelers in Europe to-day. The description of Egyptian customs and manners here given is but a small part of that revealed to us in painting or sculpture in the tombs, or upon the walls of Thebes or Beni-Hassen.

"At their feasts, which were numerous among the rich, the host and hostess presided. The seats were single or double chairs, but numbers sat on the ground. The servants decked the guests with lotus flowers, and placed meat, cakes, fruits and other articles of food on small tables in front of them. Hired musicians and dancers entertained the company.

"The rich rode in chariots, or in heavy carriages drawn by oxen. Women received more respectful treatment and enjoyed more freedom in Egypt than in any of the Asiatic nations. Games of ball were played by females, as well as by males, and one picture shows us that the loser was obliged to allow the winner to ride on her back.

"Egyptian shops furnished many curious scenes. Poulterers suspended geese and other fowls from a pole in front of the shop, which also supported an awning to shade them from the sun.

"Egyptian artists and scribes put their reed pens behind their ears when examining the effect of the painting or listening to a person on business, as in our own times. The paintings in some instances represent the scribe at work with a spare pen behind his ear, his tablet on his knee, and his writing-case and inkstand on the table in front of him.

"The dress of the higher class consisted of the shenti, a short linen or woolen garment, folded or fluted, and worn around the loins, being fastened with a girdle. A fine linen robe, reaching to the feet, was over this, being provided with long sleeves reaching to the elbows. The second girdle fastened the outer robe to the waist. The arms and lower parts of the legs were left bare. Sandals or shoes of leather, or of palm-leaves or papyrus stalks, were worn by the rich of both sexes. The Egyptian lords

wore ornaments, such as collars of beads or gold chains round their necks, armlets and bracelets of gold round the arms, rings upon the fingers, and anklets round their ankles.

"The most important trades among the Egyptians were those of building, stone-cutting, weaving, furniture-making, chariot-making, metallurgy. The builders worked in wood, stone and brick. The mechanical excellence of their works is fully attested by their continuance to the present day.

"The Egyptians carried on an extensive commerce with other countries, importing gold, ivory, ebony, skins and slaves from Ethiopia and central Africa; incense from Arabia, and spices and gems from India; and exporting, in exchange for these articles, grain and cloth.

"But, distinctively, the Egyptians were a race of builders, and they built with a resolve for permanence which has never since been approached. And upon their walls, upon column, plinth and architrave, and throughout the midnight recesses of their excavated tombs, they inscribed their annals.

"When the ancients recounted the seven wonders of the world, they placed at the head of the list the Great Pyramid of Ghizeh. It is situated in Egypt, not far from the present city of Cairo. No other building in the world equals it in size. One of the leading granite men of this country, who made a personal inspection of the Great Pyramid, says: 'There are blocks of stone in the Pyramid which weigh three or four times as much as one of the obelisks. I saw a stone whose estimated weight was 880 tons. There are stones in it thirty feet in length which fit so closely together that you may run a penknife over the surface without discovering the breaks between them. They are not laid with mortar, either. There is now no machinery so perfect that it will make two surfaces thirty feet in length which will meet together as these wonderful stones in the Great Pyramid meet. It covers an area of about thirteen acres. It is 486 feet high and 764 feet broad at its base. It is estimated that the Great Pyramid weighs six million tons, that to move it would require sixty thousand steam engines, each drawing one

hundred tons. In fact, the wealth of Egypt is not sufficient to pay laborers to demolish it. From these facts it is evident that, whoever was its great designer, he intended that it should be an enduring monument.'"

By some men the Great Pyramid of Ghizeh is given a prophetic significance which, if true, would eliminate Man as the architect, but it was undoubtedly built by men. Mr. Russell, author of "The Millennial Dawn Series," says: "Viewed from whatever standpoint we please, the Great Pyramid is certainly the most remarkable building in the world; but in the light of an investigation which has been in progress for the past thirty-two years, it acquires new interest to every Christian advanced in the study of God's Word; for it seems in a remarkable manner to teach, in harmony with all the prophets, an outline of the plan of God, past, present and future. It should be remembered that, aside from the Great Pyramid here referred to, there are others, some of stone and some of brick, but all of them are mere attempts to copy the Great Pyramid and are in every way inferior—in size, accuracy and internal arrangement. And it has been demonstrated that, unlike the Great Pyramid, they contain no symbolic features, but were evidently designed and used as sepulchers for the royal families of Egypt.

"The Great Pyramid, however, proves to be a storehouse of important truths—scientific, historic and prophetic—and its testimony is found to be in perfect accord with the Bible, expressing the prominent features of its truths in beautiful and fitting symbols. It is by no means an addition to the written revelation; that revelation is complete and perfect and needs no addition. But it is a strong corroborative witness of God's plan; and few students can carefully examine it, marking the harmony of its testimony with that of the written Word, without feeling impressed that its construction was planned and directed by the same divine wisdom, and that it is the pillar of witness referred to by the prophet Isaiah, 19:19-20: 'In that day shall there be an altar to the Lord in the midst of the land of Egypt, and a pillar at the border

thereof to the Lord. And it shall be for a sign and for a witness unto the Lord of hosts in the land of Egypt.'"

Mr. Russell argues his point in this wise: "If it was built under God's direction, to be His witness to men, we might reasonably expect some allusion to it in the written Word of God. And yet, since it was evidently a part of God's purpose to keep secret, until the time of the end, features of the plan of which it gives testimony, we should expect that any reference to it in the scriptures would be, as it is, somewhat under cover—to be recognized only when due to be understood.

"Isaiah, as above quoted, testifies of an altar and pillar in the land of Egypt, which shall be for a sign and for a witness unto the Lord of hosts in the land of Egypt. And the context shows that it shall be a witness *in the day* when the great Saviour and Deliverer shall come to break the chains of oppression and to set at liberty sin's captives—of which things our Lord preached at his first advent. The scope of this prophecy is but dimly seen, however, until Egypt is recognized as a symbol or type of the world of mankind, full of vain philosophies, which only darken their understandings, but ignorant of the true light. As Israel typified the world which shall be delivered from the bondage of sin by the great antitype of Moses, and whose sin-offering has been given by the antitype of Aaron, so Egypt represents the empire of sin, the dominion of death, which for so long has held in chains of slavery many who will be glad to go forth to serve the Lord under the leadership of one like unto but greater than Moses.

"Jeremiah (32:20), when speaking of God's mighty works, declares that he hath 'set signs and wonders in the land of Egypt, even unto this day." God showed signs and wonders in Egypt when he brought Israel out in triumph; but he also set signs and wonders there, which remain even unto this day. The Great Pyramid, we believe, is the principal one of these very signs and wonders; and it now begins to speak to scientists in their own language, and through them to all men.

"This ancient structure being thus repeatedly referred to in the scriptures, we cannot doubt that, if questioned,

that 'witness' of the Lord in the land of Egypt will bear such testimony as will honor Jehovah and fully correspond with the written Word. We thus introduce this 'witness' because the inspiration of his testimony will doubtless be as much disputed as that of the scriptures, by the prince of darkness, the god of this world, and those whom he blinds of the truth.

WHY, WHEN AND BY WHOM WAS THE GREAT PYRAMID BUILT

"History, generally, credits the building of the Great Pyramid to Cheops or Khufu, but the gentlemen who see in the architecture of the Pyramid a prophetic significance ascribe it to Melchisedek, the King of Salem, in the time of the Hyksos. This is, possibly, not without some showing of truth. Cheops or Khufu reigned in the fourth dynasty at Memphis—2450 to 2250 B.C.—and his reign is figured to end at about 2355 B.C., and before the time of the Hyksos kings."

Mr. Russell continues: "This question has been much discussed of late years, from both scientific and scriptural standpoints. For thousands of years no satisfactory answer to the question was discovered. The old theory that it was built as a tomb for an Egyptian king is unworthy of credence; for, as we shall see, it required more than the wisdom of the present day, to say nothing of that of Egypt four thousand years ago, to design such a structure. Besides, it contains nothing in the way of casket, mummy or inscription. It was not until we had come into the time called Daniel's prophecy, the Time of the End, when knowledge should be increased, and the wise should understand God's plan, that the secrets of the Great Pyramid began to be understood, and our questions began to have a reasonable answer.

"The first work of importance on the subject, proving that the Great Pyramid possessed scientific features, was by Mr. John Taylor, of England, A.D. 1859, since which time the attention of many able minds has been given to the further study of the testimony of this wonderful 'witness,' especially since Prof. Piazza Smyth, astrono-

mer-royal for Scotland, visited it for the purpose, and for several months made its peculiarities a study and gave to the world the remarkable facts of its construction and measurements, and his conclusions therefrom. To his scholarly and scientific work, 'Our Inheritance in the Great Pyramid,' we are mainly indebted for the data made use of in this chapter.

"A few years after Prof. Smyth's return came the suggestion that the Great Pyramid is Jehovah's 'witness,' and that it is as important a witness to divine truth as to natural science. This was a new thought to Prof. Smyth, as well as to others. The suggestion came from a young Scotchman, Robert Menzies, who, when studying the scientific teachings of the Great Pyramid, discovered that prophetic and chronological teachings co-exist in it. Soon it became apparent that the subject of its construction was to provide in it a record of the divine plan of salvation, no less than the record of divine wisdom relating to astronomical, chronological, geometrical, and other important truths.

"Prof. Smyth has concluded that the Great Pyramid was builded in the year 2171 B.C., reaching this conclusion, first, from astronomical observations. Perceiving that the upward passage angles correspond to a telescope, and that the 'entrance passage' corresponds to an astronomer's pointer, he set about to investigate to what particular star it could have pointed at any time in the past. Calculations showed that a Draconis, the dragon-star, had occupied a position in the heavens which looked directly down the entrance at midnight of the autumnal equinox, B.C. 2170. Then, considering himself as an astronomer at that date, with his pointer fixed upon a Draconis, and considering the ascending passages as though they were a telescope, which they much resemble, he calculated what constellation or what notable star would have been before his telescope thus fixed at the particular date indicated by his pointer, and found that it must have been the Pleiades. So wonderful a coincidence convinced him that the date of the Great Pyramid's building was thus indicated; for a Draconis is no less a symbol of

sin and Satan than Pleiades is a symbol of God and the center of the universe.

"This conclusion of Prof. Smyth's as to the date of the Great Pyramid's building was most abundantly corroborated later by certain measurements, by which the Great Pyramid indicates its own date of construction. A realization of the fact that the Great Pyramid exhibits a wisdom of design which the Egyptians could not have possessed—a divine wisdom which must have been worked out under the supervision of some inspired servant of God—has led to the conjecture that Melchizedek was its builder. He was 'King of Salem and priest of the Most High God,' and as a person and type occupied so high a position as to be a blesser of Abraham, who also paid him tithes. Of this we can know little, except that Melchizedek was a great and peaceful king, and that he lived about that time, and not far distant from the site of the Great Pyramid.

"It is conjectured that Melchizedek, though not himself an Egyptian, used Egyptian labor for the construction of the Great Pyramid. And to some extent the traditions of Egypt support such a theory. They reveal the fact that Egypt had a peculiar invasion about this date by a people whom tradition merely denominates Hyksos. These invaders seem not to have attempted to disturb the general government of Egypt, and, after staying a time for some purpose not recognized by the tradition, they left Egypt as peacefully as they came. These Hyksos or peaceful kings are supposed to include Melchizedek, and are assumed to have been the builders of the Great Pyramid—God's altar and 'witness' in the land of Egypt."

Manetho, an Egyptian priest and scribe, is quoted by Josephus and others as saying: "We had formerly a king whose name was Timaus. In his time it came to pass, I know not how, that the deity was displeased with us; and there came up from the east, in a strange manner, men of ignoble race (not warriors), Hyksos, who had the confidence to invade our country and easily subdue it by their power without a battle. And when they had our rulers in their hands, they demolished the temples of the gods."

THE PECULIAR LOCATION OF THE GREAT PYRAMID

"The Great Pyramid is situated on an elevated rocky plain, overlooking the River Nile, not far from the city of Cairo, in Egypt. A remarkable thing in connection with its situation is that the delta of the Nile forms a sea-coast which in shape is a true quarter circle, with the Great Pyramid marking the inner angle.

"The relationship of the Great Pyramid to the coast was discovered by Mr. Henry Mitchel, chief hydrographer of the United States Coast Survey, who visited Egypt in 1868 to report the progress of the Suez Canal. His observations of the regularity of the curvature along the whole of Egypt's northern coast led him to conclude that some central point of physical origination was indicated. On searching for this grand center, he found it marked by the Great Pyramid, which led him to exclaim: 'That monument stands in a more important physical situation than any other building erected by men.'

"A line drawn from the entrance passage due north would pass through the northernmost point of Egypt's coast; and lines drawn in continuation of the northeast and northwest diagonals of the structure would enclose the delta's either side, thus embracing the fan-shaped country of lower Egypt. Built upon the northernmost edge of the Ghizeh cliff, and looking out over this sector, or open fan-shaped land of lower Egypt, it may be truly said to be at the very border thereof, as well as in its nominal center, as described by the prophet Isaiah. 'In that day shall there be an altar to the Lord in the midst of the land of Egypt, and a pillar at the border thereof to the Lord. And it shall be for a sign and for a witness unto the Lord of hosts in the land of Egypt.' Another fact worthy of notice is that the Great Pyramid is located in the geographical center of the land surface of the world—including North and South Americas, unknown for centuries after the location and construction of the Great Pyramid.

"Commenting upon the scientific testimony and the location of this majestic 'witness,' Rev. Joseph Seiss, D.D.,

suggests: 'There is a yet grander thought embodied in this wonderful structure. Of the five points there is one of special pre-eminence, in which all its sides and exterior lines terminate. It is the summit corner, which lifts its solemn index finger to the sun at midday, and by its distance from the base tells the mean distance to the sun from the earth. And if we go back to the date which the Pyramid gives itself, and look for what that finger pointed to at midnight, we find a far sublimer indication. Science has at last discovered that the sun is not a dead center, with planets wheeling round it, but itself stationary. It is now ascertained that the sun is also in motion, carrying with it its splendid retinue of comets, planets, its satellites and theirs, around some other and vastly mightier center. Astronomers are not yet fully agreed as to what or where that center is. Some, however, believe that they have found the direction of it to be the Pleiads, and particularly Alcyone, the central one of the Pleiadic stars. To the distinguished German astronomer, Prof. J. H. Meader, belongs the honor of having made this discovery. Alcyone, then, as far as science has been able to perceive, would seem to be the midnight throne in which the whole system of gravitation has its central seat, and from which the Almighty governs his universe. And here is the wonderful corresponding fact, that at the date of the Great Pyramid's building, at midnight of the autumnal equinox, and hence the true beginning of the year as still preserved in the traditions of many nations, the Pleiades were distributed over the meridian of this Pyramid, with Alcyone precisely on the line. Here, then, is a pointing of the highest and sublimest character that mere human science has never been able so much as to hint, and which would seem to breathe an unsuspected and mighty meaning into that speech of God to Job, when he demanded: 'Canst thou bind the sweet influences of Pleiades?'

"In short, the claim is made that the construction of the Great Pyramid bears testimony as to the plan of redemption in its outlines. Also the plan of the ages. It is God's witness in stone of His will towards men, and His plan of dealing with them."

Whether the foregoing conjectures and opinions are well founded and approximately correct or not, it must be acknowledged that it is the most wonderful structure in the world. For that reason we have quoted on the subject at such length, and now the reader can take his choice in making up his mind; he may either believe that the Great Pyramid was designed and builded by the Egyptians alone, and which, if such be the case, speaks volumes for the intelligence and civilization of this ancient people; or he may believe that the architecture and building were executed by an inspired representative of God. If it has no prophetic significance, the mystery of its purpose and construction grow deeper as the ages pass.

Space will not warrant us in a more extended description of this wonderful structure, only to say there are several apartments in it which have been named by common consent, perhaps, as The Entrance Passage, First Ascending Passage, Elegant Hallway, Grand Gallery, Antechamber, Queen's Chamber, King's Chamber, and a Subterranean Chamber, hewn out of the solid rock. The structure is built of sandstone except in the King's Chamber and the Antechamber, where the floors and ceilings are of granite, all of which apartments are unique in architecture. Neither will I stop to mention the measurements which have been made, and by which it is claimed that the year of its construction is proven; and also that the time of "the end" is pointed out. Enough has been said to show its enigmatic character, and to demonstrate the fact that the Great Pyramid is indeed the most wonderful structure ever erected on this earth.

EGYPTIAN LITERATURE

It is entirely safe to say of Man's beginnings in Egypt, we know nothing whatever. Geographical research seems to indicate, possibly, that the River Nile did not always occupy its present bed; there may have been a time, then, when Egypt was a barren, desert country, when the people known to us as Egyptians had their abode farther south in the African continent. This ancient people, even-

tually, appeared in the narrow and fertile valley, to which they gave its present name, and began the wonderful career which modern investigation has but partially traced out. At this date—say, 4,500 to 5,000 years ago—we find them already far advanced in civilization, making use of a written language, and possessed of certain knowledge, scientific and mechanical, to which we are as yet strangers.

But there must have been a time, *so said*, either before this ancient people emigrated to the valley of the Nile, or after they reached their new home, when they had to learn to talk; had to learn to make use of articulate speech, which is called language.

No one remembers when he began to talk, and, therefore, until we begin to reflect upon the subject, language seems always to have existed or to have come by nature to our lips. At the present time, words do spring spontaneously to our lips; and we can scarcely imagine a state of human existence in which there were no words known to Man to be spoken.

There is a diversity of opinion existing as to primitive Man and his condition, but they may all be classified under one of two heads. That is to say, there are two theories extant as to primitive Man. The one holds that Man was created by God, and endowed with all the native intelligence that he now has, only lacking the refinement that education and experience give to intelligence; that language came automatically to his lips, possibly by intuition, and he could use it without being educated to do so; and that, at that time, he was a perfectly pure being; but that he was given, by endowment, a dual character or nature, viz., a moral character and a carnal character, with the power of choice, and a free will to act on that choice, and, as a result of that dual nature, Man disobeyed by choice; wilfully, if you please, and so did not use his moral intelligence in accordance with God's wishes or design, and, therefore, entailed the wages of sin on his posterity; *i.e.*, he taught the first lesson in disobedience. For this reason he was sent adrift on the face of the earth, and, in his wanderings, evolution by degeneration brought him, in many instances, to a

state of barbarism and savagery, by reason of the non-exercise of his moral character; and now he has to regain his inheritance by the process of redemption before he can fulfil his intended destiny.

The other theory holds that Man, when he was first launched upon the scene of this world's activities, was just a little step above the brutes around him, he having emerged from the brute by evolution. That his intelligence was that of the brutes around him, and his nature was that of brutish savagery. That, at first, all communication with his fellows—if, indeed, he had any—was by signs and motions, as he had no language; but that all language came by growth, starting from the merest monosyllabic grunt, and growing little by little, step by step, to his present verbose vocabulary. That Man has steadily grown in mental acumen because he learned to talk and use articulate language, from that time to the present; that all that Man knows mentally and morally he has learned by his own exertions from experience; little by little, step by step, he has emerged from total ignorance and barbaric savagery, where his coming found him, to the present enviable estate.

This last theory makes it possible—yes, probable—that untold ages may have passed before Man could hold converse with his fellow Man, only through signs and motions. To me this is incredible. To us of to-day it seems just as natural for a normal human being to talk as it is for a calf to chew its cud; and it is just as reasonable to me that Man should talk intuitively, as that a calf should chew its cud, by nature. Words spring spontaneously to our lips, and it is just as natural for the child to learn to produce audible, articulate sounds, as it is to hear and recognize articulate sounds. Both are native functions, implanted in the make-up of the being, and could not have been acquired by synthesis, though the native function is capable of much improvement by practice and learning. Language may have been very imperfect at first, but it was articulate language to them, and so conveyed their meaning, and was, by the auditors, perfectly understood; if it had not been so, there could not have been any improvement. Very probably their

language was a flexible affair, like the primitive Chinese language, where a word might be a noun, a verb, or an adjective, either or all in the same sentence. But the fact remains that spoken words constitute articulate language, no difference how grammarless it may be. However, the scientific theory of the origin of language is interesting, and may be the process by which language has been perfected.

SCIENTIFIC THEORY OF THE ORIGIN OF LANGUAGE

"Unless we suppose language to have been given to Man as a direct divine revelation, there must have been a period in the dawn of human history as that no words were known to be spoken. Man was practically dumb. He could feel, he could think, but speech was unknown to him. The conception of communicating his emotions and perceptions of sounds—still less of classifying and organizing such sounds—had never presented itself to him.

"The root and origin of human speech is emotion. The distinction between emotion and thought was artificial and comparatively recent. They were originally one; and if we penetrate beneath the surface, we shall find that they are so still. Thought, in its basis, is contemplation of emotional impressions. Though such contemplation may, in the abstract, be considered apart from the impression, in reality it is never so separated. The two make one, as do substance and form. We may abstractly consider the form of a thing apart from the thing itself; but if we take away from the thing its constitutive substance, obviously there will be nothing left. We can only say that form is a universal property of substance; and in the same way we may say that thought is an inalienable property of emotion. Without emotion the mind is and must remain inoperative—a blank. Emotion is prior or radical; thought is posterior or derivative." (How does that comport with the evolutionary theory, or Darwin's idea that the brain was developed because Man learned to talk?)

"When we say that Man was originally dumb, we mean only that he was dumb in the sense that animals are so.

He could always make sounds. And it was emotion that prompted him to do this. Love, hate, anger, fear, hope, disappointment, hunger, satisfaction—it is in such emotions as these that we find the primal elements of what was destined to be human speech. The sounds elicited by emotions were vowel sounds; we find them in our alphabet to-day, and they still express the entire gamut of emotion. They are made by unobstructed breath expelled through the throat, the mouth being open; the shape of the aperture formed by the lips determines the sound of the vowel. Such was the first human speech; a mere reverberation of the impact upon the human senses of the phenomena of the external world. There was no attempt at specialization or definition further than inhered in the indefinite modulations of the sounds themselves.

"The appearance of the consonants indicate the second state of speech. Consonants are modes of obstructing the free vowel sounds. Emotions had become more complex; it became necessary to convey the idea of transaction from one emotion to another, and the consonant was the natural division-point or partition between the two. They were formed by various combinations or oppositions of the teeth, tongue, lips, palate and glottis. They are in themselves merely auxiliary—the framework upon which the forms of speech are displayed; they have been called the skeleton of speech. Like the bones of the human body, they are comparatively devoid of life. In some degenerate or savage languages, consonants are more prominent than vowels, indicating a low and unintelligent state of existence.

"With the establishment of the consonants, the creation of words became possible. The earliest words were probably the names of objects—nouns. Upon seeing any given object for the second time, the observer would repeat the sound or word which its first appearance had drawn for him; this became in time the name of that object. Or if he wished to convey to another the emotion which a certain thing or event had aroused in him, he would repeat the sound which he had then uttered. Pronouns, which point out objects without naming them,

would also be early used. Action would first be expressed by illustrative gestures; the verb, as we have it, is the outcome of a comparatively complicated mental process, but the noun is obviously its parent. Adjectives, adverbs, and other parts of speech were gradually and insensibly developed. Inflections came later still, and are only found in a certain family of languages. Of the three classes into which all languages are derived, two, the monosyllabic and the agglutinated, are devoid of inflections. Examples of the first are the Chinese and the American Indian; of the second, the Tartar, Finnish, Caucasian. The third, or inflected class of languages, includes the Semitic and Indo-European families; and the races which spoke them are the fathers of human progress and civilization. This is a significant fact. The difference between the inflected and the other languages is similar to that between matter organized and inorganic, or between life and death. Inflected language, and therefore the people who spoke it, alone possess the principle of active life, growth and aspiration. The Indo-European nations were travelers, colonists, conquerors, pioneers; their mode of existence was restless and ambitious. The Semitic peoples were less physically active, but they were conquerors in the realm of mind; they were the masters of philosophy and metaphor. The languages of these two great families are the mirror of their character and temperament. They are spiritual, plastic, sensitive. Their words are histories; they have souls, they grow and change. The uninflected languages are not older than the inflected, as might be supposed—they are of a distinct genus. The impulse which brought them to their present estate died and left them there. What they are now they were before history began. The soul is out of them, even as the instinct of progress was extinguished in those who spoke them.

"Language is not literature, though it includes it. Literature in its prime definition is written language. When language first began to be written we do not know. The invention of letters must have been a slow and abstruse process. In the beginning, the Man would make a picture of some object which had impressed him—an out-

line sketch of a wild animal, perhaps. This would serve in lieu of its name to recall it to himself or another. Less concrete ideas, connected by tradition, however, with some concrete thing, would next be portrayed. Gradually the outline would be simplified until it was reduced to a conventional sign. These signs were now used to indicate simple sounds, and thus the alphabet as we know it came into existence. How many ages elapsed from the first pictorial representations to the evolution of the early alphabets can only be conjectured. In some languages, such as the Aztec, writing is still a series of pictures. In Chinese, it is still more. Egyptian hieroglyphics are pictures more or less conventionalized. The Hittite and the cuneiform are other surviving examples of such writing. The first alphabet which properly merited the name was the Phœnician; allied to it are the early Hebrew and the Greek. From these, in various ways, were derived the alphabets of Asia and Europe, during historical periods, down to the present.

"For a long time the use of written language must have been restricted to important records, owing to the difficulty of inscribing words upon stone or metal materials. For the same reason, the task of making such records would be given over to that class in a community which possessed the most leisure for sedentary occupation; that is, to the priestly class. Possibly because this class was concerned with religious and mystical pursuits. So writing came to have a sacred character ascribed to it. The deeds of great rulers, handed down by oral tradition, would acquire a legendary character, and would easily be magnified by scribes into the achievements of heroes, demigods, or Deity itself. The great writings of antiquity, notably our own Bible, came to us in the guise of divine revelations. They set forth the dealings of the Higher Power with men, and the precepts which He inculcates. It seems probable that enlightened criticism may hereafter concede a higher authenticity to these scriptures than it has latterly done. All language is metaphorical—ideas conveyed by symbols. The Vedic poems of India, the Persian Avesta, the Hebrew scriptures, and even the epics of Homer, are found to have an esoteric

sense beneath the story of the letter. This inner or spiritual meaning refers to the conflicts of Man with the evil to which he is prone, to the liberation of the spiritual from the bonds of the inferior nature, and to its final union with God. We shall only remark, in support of the divine inspiration of these ancient books, that in all the ages that have elapsed since their production, mankind has conceived nothing equal to them in sublimity, profundity and truth. All the worthiest in literature since their epoch is but repetition more or less feeble, comment more or less competent, of and upon the principles which they set forth. They are the most modern as well as the most ancient books of the world.

"As time went on, and the labor of writing became lightened by various devices, persons outside of the priestly class acquired proficiency in the art, and the character of the records became correspondingly secular and trifling. It would seem as if the sources of Man's spiritual enlightenment were progressively closed. He no longer pretended to converse with angels. He was content to become the chronicler of merely natural events, the singer of love songs, the purveyor of imaginative romance. In the ruins of Babylon and Nineveh are found multitudes of bricks, inscribed in the cuneiform characters, with writings of the most transient importance, such as the records of sales, enumeration of properties, and memoranda of persons, places and times. Following the great classic of Chinese literature, we find works on almost all subjects, with the exception of mathematics. In Egypt, during the period of Rameses, there was a great production of novels and works of entertainment. The literature of ancient Greece is abundant in quantity, faultless in form, and unsurpassed in artistic quality and eloquence. They brought almost to perfection the various departments of historical, poetical, oratorical and metaphysical literature. The Romans followed but scarcely rivaled them. With the fall of Rome, modern literature may be said to begin.

"Although literature is written language, we are not to infer that Man postponed the expression of the sentiments and aspirations which filled him until he could carve

them on stone or inscribe them on papyrus or parchment. Literature, in the early ages, was chanted or sung; the medium of record and transmission was the tablet of the human memory. The epics of Homer were recited by minstrels long before they were committed to writing. Memory in those times was perfected to a degree now hardly credible. The great Vedic hymns were similarly chanted. Writing as a means of preserving such composition was of comparatively late employment. But when the era of sublime inspiration passed, and the process of pen-and-ink writing upon skins or papyrus, or with the stylus upon wax sheets, was introduced, scrolls and books took the place of memorizing. The collection of these documents constituted the first libraries. Many of these early libraries were of large extent. Their contents have been either wholly or in part destroyed. All we know of many important books and works is the chance mention of them in books of which late copies have survived.

"But there was until lately another obstacle in the way of our mastering ancient literature. We did not understand the language in which it was written. The peoples who had spoken them had disappeared; they had been conquered by others and absorbed, or had died out from various causes. Their languages had been supplanted by those of their conquerors, and the keys to them had been lost and forgotten. But sometimes by accident, or again by patient ingenuity, these keys were recovered. It was found, for example, that Sanskrit, the language of India, was allied to Greek and other European tongues, and thus, by diligent comparison and sagacious interpretation, its books were read. The Babylonish astronomical records were translated into Greek by Berosus, 300 years B.C. Hebrew proved to be the open-sesame to another group of languages, such as the Syriac; and Persian was found to own relationship to both Chaldaic and Sanskrit. The insoluble enigma was the Egyptian hieroglyphics, and they might have remained so to this day had not an inscription on stone been found in 1799 which contained a passage in hieroglyphics followed by its translation in Greek. This Rosetta Stone, as it is called, after the town on the Nile near which it was dug up, opened the door,

giving access to the hitherto hidden history of nearly thirty centuries. During the hundred years which have elapsed since then, the literature of Egypt has absorbed the attention of many scholars."

Interesting as is the above scientific analysis of the origin of language, it is the production of a scholar of these later times and may possibly be accepted as approximating a scientific explanation of the origin of language; but we venture that language, as first spoken by humanity, had no such scientific origin; else we must grant early mankind to have been as scientifically learned as this learned gentleman; the human voice made itself a medium of communication by sounds, at least, whether euphonious and grammatical or not, from the very beginning.

To show the literary achievements of this early people, sketches from their most ancient manuscripts have been selected, among which is "The Oldest Book in the World," estimated by different Egyptologists to have been written 3,065, 3,585, 3,580 and 4,000 years B.C. It was written by Ptah-Hotep. The papyrus roll on which it was originally written is preserved in the Bibliotheque Nationale at Paris. This papyrus roll was discovered by M. Prisse at Thebes, Egypt. Let us quote a translation from the "Literature of All Nations":

PRECEPTS OF PTAH-HOTEP

The words of the Lord Prefect Ptah-Hotep, who lived in the reign of Assa, King of Northern and Southern Egypt, who liveth forever.

Thus saith the Lord Ptah-Hotep: O Lord Osiris, whose feet are upon the crocodiles. A man waxeth old, his strength decayeth, he getteth in years, his youth fadeth away: Day by day the heart of an old man fainteth and is troubled: His eyes see not, his ears hear not, his power is lessened and abated: Behold, his mouth speaketh not as of yore; his mind is feeble, and remembereth not the deeds of yesterday: Yea, his body is afflicted, good is to him as evil, his tongue savoreth no longer. Alas, the old age of a man is full of misery, his nostrils drink not the breath of heaven, his lungs wax feeble, he delighteth neither to stand nor to be seated. Who shall give unto my tongue authority to utter unto the young men the councils from the old? or who vouchsafeth unto me to declare

the councils received from on high? O Lord Osiris, let thy favor be poured out upon thy servant, and suffer these evils to be removed from those who are unenlightened.

Then answered the Lord Osiris and said: Instruct them in the councils from of old; for verily, wisdom from of old maketh the weak strong; knowledge giveth freedom to him that heareth; wisdom cries aloud, and the ear is not satisfied with hearing.

Here beginneth the book of the wise sayings of the Lord Prefect Ptah-Hotep, the first-born, the son of the King, the well-beloved of the Lord. That the ignorant and the foolish may be instructed in the understanding of wisdom. Whoso giveth ear, to him shall these words be as riches; to him who heedeth them not, to the same shall come emptiness forever. Thus speaketh he, giving counsel unto his son. Be not thou puffed up with thy learning; honor the wise, neither withhold thou from the simple. The gates are closed to none; whoso entereth thereat, though he seeketh perfection, yet shall he not find it. But the words of wisdom are hid, even as the emerald is hid in the earth, and adamant in the rock, which the slave diggeth up.

Yield unto him whose strength is more than thine, who falleth upon thee in anger: be not thou inflated, neither lay thy hand upon him; so shalt thou escape calamity. He is froward, it shall not profit thee to contend against him; be contained, and when he rageth against thee, oppose him not, so in the end shalt thou prevail over him.

If one rail out against thee, and flout thee, answer him not again, but be as one who cannot be moved; even so shalt thou overcome him. For the bystanders shall declare that he who, being provoked, holdeth his tongue, is greater than he who provoketh; and thou shalt be honored of those who have understanding. If thou do evil, being thereto commanded by one having authority over thee, the gods shall not condemn thee. Know thy master, and the slave: be not froward: obey and reverence him to whom is given dominion over thee: None may know adversity, when it cometh, nor prosperity, when it shall relieve him, for the will of fate is hid from all. But he that abuseth his servant shall be confounded, and God who gave him authority shall suddenly take away; and great shall be the overthrow. Be diligent, and do more than thy master commandeth thee; for the slothful servant shall be discomfited, and he that is idle shall be chidden. See thou neglect not thy household; if thou find opportunity to increase thy wealth, improve it; business begetteth business, but poverty is the lot of the slothful.

The wise traineth his child to walk devoutly and to serve the Lord; he maketh him obey his law, and do that which is bidden; so shall the love of the father be justified. The son of man is flesh of his flesh and bone of his bone; let not thy heart be cold towards him. But if he be froward and trans-

gress thy law, and, being tempted of evil, turn himself from thy instruction, then do thou smite the mouth that smote thee. Delay not to bring the erring to obedience, and to chastise the rebellious, so shall he not stray from the path of righteousness, nor stumble among pitfalls. Hide not thy path, let not thy way be hidden; though thou stand in the council of thy master, declare the truth that is in thee.

Be not as those who go backward, who eat the words of their own mouth, lest peradventure they offend: Be not like unto them; feigners, answering, He that perceiveth the error of things, the same is wise: when the wise man upliſteth his voice against error, deny him not, but keep silence; for surely none but the wise have understanding.

If thou be wise, guard thy house; honor thy wife, and love her exceedingly: feed her belly and clothe her back, for this is the duty of a husband. Give her abundance of ointment, fail not each day to caress her, let the desire of her heart be fulfilled: for verily he that is kind to his wife and honoreth her, the same honoreth himself. Withhold thy hand from violence, and thy heart from cruelty, softly entreat her and win her to thy way; consider her desires, and deny not the wish of her heart. Thus shalt thou keep her heart from wandering; but if thou harden thyself against her, she will turn from thee. Speak to her, yield her thy love, she will have respect unto thee; open thy arms, she will come unto thee.

Blessed is the son who gives ear to the instruction of his father, for he shall escape error. Train thy son to obedience; his wisdom shall be pleasing unto the great. Let his mouth have respect to thy sayings; by obedience shall his wisdom be established. Day by day shall his walk be perfect; but error shall be the destruction of fools. The ignorant and froward shall be overthrown, but knowledge shall uplift the wise.

He that lacketh prudence and inclineth not his ear to instruction, the same worketh no good. He thinketh to discover knowledge in ignorance, and gain in that which profiteth nothing; he runneth to himself, and wandereth into error, choosing those things which are rejected of the prudent; so subsisteth he on that which perisheth, and filleth his belly with words of evil. Yea, he is brought to shame, seeking to be nourished with whatsoever the wise hold in abomination, shunning profitable things, led astray by much foolishness.

Take thought in thy heart, but let thy mouth be sparing of words; so shalt thou have speech with the great and the wise; cleave to the way of thy master, so that when he declareth, This is my son, the bystanders shall say, Blessed be she who bore so good a child. Apply thy soul diligently unto that which thou speakest, yea, speak perfect things, or speak not at all; so shall the great give ear to thee, and cry, Lo, twice wise are the utterances of his lips! Do thy master's bidding, and be diligent to observe the precepts of thy father; inscribe

his law in thy heart, and obey his will even beyond that which he requireth of thee; so shalt thou be pleasing unto him.

Verily, a good son is given of the Lord, who doeth more than is required of him, and laboreth to please the heart of his master, and seeketh strength in righteousness. So shall thy body have health, and thy king shall be content with thee in all things. Thy days shall be many under the sun, and increase of years with strength shall be thine. Wisdom uplifteth me to a high place, and multiplied my years, to live long in the earth, even five-score and ten years. This I have found: That the best favor of a king is given to him who laboreth all his days, and findeth honor with all men.

Now, if Man, "when he first became Man, was just a little step above the brutes around him," he must have made very rapid strides in his mental and moral improvement. Who can truthfully say that the sentiments expressed in the foregoing are not those of the highest type of civilization, even from the standpoint of Christian ethics?

The sentiments expressed are indicative of a high moral character in the author, with a complete understanding of righteous ways. They also indicate as intelligent an idea of a Supreme Being as we have to-day, notwithstanding he calls upon Osiris as his God. That was the name by which he knew God.

It is worthy of notice that in the make-up of the composition there is not a hint of idol-worship or the worship of multiple gods, such as afterward prevailed. Evidently Ptah-Hotep wrote before the days of luxurious revelry in the courts of the king, and the consequent degeneration and decay, amounting to the abandonment of the ethical character, had begun to debauch even the nobility of Egypt. I say even the nobility, because, in times past, there is where debauchery first showed itself in a nation under the old régime.

It is the belief of the writer that if such sentiments were promulgated in a state paper by a potentate in any Christian country in these times, he would be looked upon by the great mass of humanity as an old fogy, and the expressions those of a fossil out of date, who had outlived his usefulness; because of the tendency of these times. And yet, for a certainty, no Man can deny the

soundness of the advice given; to the lofty truths expressed in this, the most ancient memorandum of the sayings of Man.

This style of composition must have been the classic primitive style of writing, and must have prevailed for ages at least, as we find the Proverbs of Solomon written in the same style and measure.

THE BOOK OF THE DEAD

The ancient Egyptians were a people full of the vigor of life; and this may be one reason of the extraordinary care they gave to the preservation of the body after death. The idea of the final dissolution, even of the body, was unwelcome to them; and they established elaborate and costly processes and ceremonies, with the purpose of affording help and guidance to the soul on its journey through the spiritual world, and meanwhile of preserving the body as nearly as possible intact, in order that it might be ready to receive back its informing spirit when the time of the resurrection should come.

THE VOYAGE OF THE SOUL

In the fifteenth chapter of the Book of the Dead we find an account of the passage of the soul in a boat across the firmament, to the abode of the blessed. The soul is called Osiris by the Egyptians, in connection with the proper name of the individual (N), to indicate that the latter already partakes of the divine nature. Here is the Osiris (N):

> Come forth into Heaven, sail across the firmament and enter into brotherhood with the stars, let salutation be made to thee in the bark, let invocation be made to thee in the morning bark. Contemplate Ra within the Ark, and do thou propitiate his orb daily. See the fish in its birth from the emerald stream, and see the tortoise and its rotations. Let the offender (the dragon) fall prostrate, when he meditates destruction for me, by blows on his backbone.
>
> Ra springs forth with a fair wind; the evening bark speeds on and reaches the Haven. The crew of Ra are in exultation

when they look upon him; the Mistress of life, her heart is delighteth at the overthrow of the adversary of her lord.

See thou Horus at the lookout at the bow, and at his sides Thoth and Maat. All the gods are in exultation when they behold Ra coming in peace to give new life to the hearts of the Chu, and here is the Osiris N along with them.

(Litany.)

Adored be Ra, as he setteth in the land of life.

Hail to thee, who hast come as Tmu, and hast been the creator of the cycle of the gods.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, who hast come as the soul of souls, revered in Amenta.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, who art above the gods, and who lightest up Tuat with thy glories.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, who comest in splendor, and goest around in thine orb.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, who art mightier than the gods, who art crowned in Heaven and King in Tuat.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, who openest the Tuat and disposest of all its doors.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, supreme among the gods, and weigher of woods in the nether world.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, who art in thy Nest, and stirrest the Tuat with thy glory.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, the great, the mighty, whose enemies are laid prostrate at their blocks.

Give thou delicious breezes of the north wind to the Osiris N.

Hail to thee, who slaughterest the Sebau and annihilatest Apepi (the dragon).

Give thou delicious breezes of the north wind to the Osiris N.

Horus openeth: the Great, the Mighty, who divideth the earths, the Great One resteth in the Mountain of the west, and brighteneth up the Tuat with his glories and the Souls in their hidden abode, by shining into their sepulchres.

By hurling harm against the foe thou hast utterly destroyed all the adversaries of the Osiris N.

THE SOUL'S DECLARATION OF INNOCENCE

This declaration was to be made by the soul in the judgment hall of Osiris in the presence of the council of forty-two gods. The heart being weighed against the

symbol of truth and found correct was then restored to the deceased, who entered upon the life of the blessed.

O ye Lords of truth! I have brought you truth.
I have not privily done evil against mankind.
I have not afflicted the miserable.
I have not told falsehoods.
I have no acquaintances with sin.
I have not made the laboring man do more than his daily task.
I have not been idle.
I have not been intoxicated.
I have not been immoral.
I have not calumniated a slave to his master.
I have not caused hunger.
I have not made to weep.
I have not murdered.
I have not defrauded.
I have not eaten the sacred bread of the temples.
I have not cheated in the weight of the balance.
I have not withheld milk from the mouths of sucklings.
I have not slandered any one.
I have not netted the sacred birds.
I have not caught the fish which typify them.
I have not stopped the running water.
I have not robbed the gods of their offered haunches.
I have not stopped a god from his manifestation.
I have made to the gods the offerings that were their due.
I have given food to the hungry, drink to the thirsty, and clothes to the naked.
I am pure! I am pure!

These are only a few of the many selections that might have been made from the literature of ancient Egypt, all of them dating more than 2,000 years B.C. We have dwelt at this length to fully attest the wonderful civilization and advancement this most ancient people had attained 4,000 to 5,000 years ago. The enumeration and description of their accomplishments, trades and customs reads like a description of a flourishing city or community in our own times here in the United States. Indeed, a description of many of our most advanced cities would not include as many of the useful arts as did they understand and practice more than 4,000 years ago. Though in some respects they were not as far advanced, perhaps, as we are to-day, as we see no mention of steam and trolley cars, electric lights, automobiles, pianos,

phonographs, and a world of unique and technical machinery of to-day; yet this wonderful people practiced all the useful arts, and we must grant that they were a wonderfully advanced people for their time, the oldest civilization in the world.

Compare, for instance, this pen-picture of advanced and cultured civilization in ancient Egypt, their high moral attainments, their wonderful abilities in architecture and building, the diversity and perfection of mechanic arts, with the barbarism of the Engles and Saxons, our own progenitors, at the time when Hengist and Horsa led their band of marauders, landing at Ebbsfleet, on the isle of Thanet, just off the shores of Britain, in 449 A.D., or even with the Anglo-Saxons, who became the English people, for the succeeding five hundred years. It is the comparison of a brilliant, advanced civilization with a barbarism, if not indeed a nation of savages.

In the more than 3,000 years that had elapsed since Ptah-Hotep wrote, to the landing of our pirate forefathers on the shores of Britain, the ethical character of the mass of humanity then on this earth had faded to a mere shadow of what it had been. They had fallen from their first estate of purity and moral acuity, civil and mechanical greatness, to a state of savagery. In the intervening time the race had become widely distributed over the earth, and there had sprung up a few foci, such as Palestine, Greece, Rome, Babylon, Arabia, and perhaps others, widely separated, that had kept the light of civilization and learning burning. In a few instances their light shone with great brilliancy; but in each instance it was destined to die down to a mere flicker, if not to be entirely extinguished. A gradual but sure decline, almost to the point of obliteration, of the ethical character, learning, civilization and progress, had been world-wide, until the first century A.D., since which time there has been a gradual lifting of the darkness, and a general improvement of mankind. But since the beginning of the uplift, there have been times of fluctuation, when the lights of civilization and learning were all but extinguished, culminating in the great eclipse of the "Dark Ages," but since which time the lights have burned more brightly

than before. The great question is—What was the cause of the uplift?

We find the cause of the decline to be the abandonment of ethical culture in Man; leaving the subject entirely under the influence of his carnal and animal nature. Likewise, we find the cause of the improvement to be a reawakening of the moral nature, and the supplanting of the carnal character by an ethical character. We grant it has been a slow advancement, because the reawakening has been only fractional. The proof of this proposition is the fact that those peoples who have cultivated the moral nature or character most have made the most rapid progress and advances and have reached a higher plane of civilization.

We recognize the fact that this is indeed a very broad subject, and is capable of great elaboration. We are aware that our position is the opposite of that taken by most historians, especially is it the opposite of the Darwinian theory. The proof of our theory is in the people themselves of those times, and not in our belief. Want of space forbids a full discussion of these points. Henry Van Dyke's "Essays in Application" are well worth studying in this connection. We believe humanity has never been interpreted aright save in one book.

That such a people should utterly perish from the earth is just as wonderful as their advancement in their time. Why should such a people perish from the earth? What is the secret of their failure? This is just one, the first, advanced civilization of many that might be named which had its beginning, development, decadence and extinction—the four stages which are the inheritance of all life.

This is simply the story of scores of peoples who have followed along the same paths and come to the same ending; and it is a portending of what is to follow on the heels of the present. What we are pleased to call the grand civilizations of the twentieth century A.D., are all to perish, sooner or later, from the earth, to be followed or perhaps supplanted by others. And whether they will be more advanced than those now holding sway, or whether history will repeat itself, and a time will come

like unto the "Dark Ages," will depend upon whether or not the coming generations develop the individuality of the highest manhood and womanhood. If the coming generations develop fully the idea that the nation is the ideal, and the individual is only a cipher, they will go down to oblivion, the same as others have done, as the chain is only as strong as the weakest link in the chain. A nation is only great as the individuality of each individual, each integer that goes to make up the sum total of the nation, is noble and great and good. Perpetuity of a people cannot rest with a national government, whatever form of government it is, be it a theocracy, a monarchy, a republic or a democracy; but it is contingent upon the personality of the people that go to make up the nation. This may be more emphatically true in a republic than in a monarchy. In the latter the responsibility rests with the monarch as much or more than with the people over whom he reigns. If there really is such a thing as a "government of the people, for the people, and by the people," then of course the people are responsible for the quality and course of the government; but I question very much whether there ever was or ever will be such a form of government, simply because of the vulnerability of the character of unregenerate humanity. Nowadays we hear of the terrible corruption of a national government; and a great cry is going up for government reform and purity. But the corruption in a national government only displays on a larger scale the corruption of the individual membership who have the reins of government in their hands. If the individuality of a nation is honest, pure-minded, true-hearted and noble in character, the government will reflect those qualities or elements in its administration; and there can be no trouble at all about the ethics of the national government.

Much is said to-day about the "community of interest," the "brotherhood of Man," and the "solidarity of the people," as elements in government, but the only saving and advancing element comes from free and noble individual manhood, acting each for himself. The character of the individuality is the only test of greatness, grandeur and sublimity, or the smallness and insignificance

of a people. Under the moral law the responsibility rests with the individual; why should it not be so under the civic law? Under the moral law every one is a sovereign in himself, or ought to be; why should it not be the same under the civic law? But the history of the world shows that Man has ever been running after a leader, and, like a flock of sheep, they go wherever the leader lures them. That seems to be one of the weaknesses of humanity. They do not assert their individuality, and to that extent they have not attained to the highest plane of civilization. To-day it is largely the custom to call any Man that asserts his individuality a "crank." All innovations must come from a leader—at least have his endorsement. This only emphasizes the great responsibility resting with a leader.

It has been held by eminent historians and philosophers that a people could not raise themselves from barbarism to a civilized state without the aid and influence of some outside party or people. How then did the first or primary civilizations come about, if Man, when he first became Man, was a barbarian or even worse, but just a little step above the brutes around him? None of the primary civilizations, then, could have been the outgrowth from a barbarism preceding it; and if there had not been the primary civilizations, there would never have been any civilizations at all. That in itself would prove that primitive Man was not a barbarian. Was primitive Man in Egypt a barbarian? Certainly not, else he could not have become civilized; but, on the contrary, he was possessed of traits of character which, under competent, noble leadership, developed the high type of manhood—civilized manhood—which we see portrayed in the foregoing sketches of their very earliest history. Now, other peoples, who emigrated from the original birthplace or home of the race, had their awakening along different lines, and, as a consequence, they developed into barbarians and savages—perhaps all owing to their leadership and environment.

A notable case in history seems to demonstrate that a people may rise from the savage to a high state of civilization, under the influence and guidance of a leader-

ship in the person of a king or emperor of high moral character, and without the aid of any outside influence, so far as history relates; it is probably an exception to the rule. Under the circumstances, a leader seems a necessity in civilized society as well as among barbarians. This seems to demonstrate that if the leader or king has the confidence of the people, and is the right kind of a man, he may lead his people upward, and bring civilization out of barbarism or even savagery. Or, on the contrary, if the leader or king be an evil-minded man, a man of low and bad morals, he may degrade his people, and cause even a civilized people to revert to barbarism.

Examples in history prove this proposition abundantly. A notable illustration of the first proposition is Haroun al Raschid, of Arabia. About the middle of the seventh century A.D., the Arabians were at the lowest stage of barbarism, but "under the refining and uplifting influence of Haroun al Raschid, the emperor, a culture began. Seats of education and study sprang up on all sides, the novel science of mathematics was prodigiously advanced. The barbarism of the people was turned into civilization during his leadership, and under the leadership of his still more glorious son, Al Mamoun, the 'Golden Age' of art and scholarship set in. From the ninth to the sixteenth centuries no other nation could compare with the Arabians in the extent and value of their intellectual accomplishments." (Lib. of Univ. His.)

At the time of this renascence, it seemed that civilization was about to disappear from the face of the earth—the Dark Ages in the history of the world—and it may be fairly said that the barbaric Arabians rescued it, and prevented a world-wide barbarism from supplanting civilization. They rescued civilization for a time; but their fall was as rapid as their rise had been, and to-day they are the rude barbarians that they were fifteen hundred years ago.

Their rise was due to the influence of two men, father and son. Their fall or reversion was due to the corruption and debauchery of the leadership which succeeded them. Such, in brief, seems to be the history of many nations in the past. Men are raised up to the leadership

of a people, whose influence is an uplift to the people, and the reverse is just as true. This is more likely to be the case in a monarchy than in a republic or a democracy; Asia has never been the home of any but an absolute monarchy.

From the time of the earliest civilization in Egypt, there has never been a period that there was not a seat or center of civilization somewhere on the earth, though those seats have fluctuated, being now here, now there; yet civilization has never been entirely wiped out. From the sixth to the tenth century A.D., were the darkest days in the history of the human race. What was the cause of the great reversion? I can only risk an opinion when I say the dominance of a system that forbade the assertion of the individuality, as well as the education of the masses of the people; and the corruption and debauchery of the leadership; which causes, taken together, totally destroyed the individuality of the people. I am stating the cause and pointing out the antithesis to the proposition heretofore stated, as necessary to the highest civilization.

We of to-day cannot imagine what may have been the condition of the people, as regards government, in the beginning, before history began to be written, or beyond the most hazy tradition; but it is thought to be practically certain that the primary form of government was patriarchal. The change from the patriarchal to the tribal, and then to the national government, came about, probably by the development of a patriarchal genius, a man of peculiar ability for leadership, who induced others than his immediate family descendants to follow his lead. This circle widened more and more, until the numbers became too unwieldy for nomads, and a permanent government was formulated and established, and became known as a nation. Evidently it did not take as many people in those early days to set up a national government as it does to-day; and then there was no restriction as to land occupancy, only as agreed upon. Probably the first war that occurred on this earth was on account of "disputed possessions."

It has ever been the case that leaders of intelligence and

genius, if not of education, have been raised up, from time to time, to lead their people onward and upward. Indeed, we have instances that prove that intelligence and genius are sometimes a greater blessing than education. An illustration: Not long ago I knew a young man who was a graduate of Harvard College. He was at home on a visit, and at the market he bought a rabbit and took it home, but his mother told him that she was too ill to try to dress it. The young man said he could and would dress the rabbit. He went to the basement, and all was quiet for some hours, when the young man came to the mother and said: "Well, I'll have to give it up; I can't pick the rabbit—my hands are tired out, my fingers are sore." The mother said to him: "Let me see what you have been doing." He brought the rabbit and showed it to her. He had spent three hours "picking" the rabbit, and had hair all over the basement; and the rabbit was not half picked, at that. "Why, my son," said the mother, "we never pick rabbits—we always skin them."

Now, this young man's genius told him nothing; and his college education did not help him a particle in his attempt to dress the rabbit. Such an one would have been a very poor leader in the events of the past ages, because his genius was away below the mediocre. Such a man, as a leader, would have been a dead weight to his people; and it is just such men, in the past, as leaders, that kept the primitive Man back. He might do well enough in some other place, but not as a leader. We would never have dreamed that such a stupid character belonged to the Anglo-Saxon branch of the Aryan race.

But there have been men of brains, intelligence and pronounced genius, from the earliest ages of which history or tradition gives us a glimpse; and we have every reason to believe that there have been men of intelligence and genius ever since Man's creation. We have the evidence that intelligence, capacity and genius have been exercised by barbarians throughout all the ages. When it is said that a Man is a barbarian, or that certain peoples are barbarians, it is not saying that they are not men of brains and mental capacity; they may have great mental capacity, but they are barbarians simply because their

moral natures have never been awakened. The early or primitive Egyptians had evidently had their moral natures awakened to an extent similar to that of the time of Noah's early history, or it may have been a more hazy awakening; and degeneration resulted with their prosperity. The carnal mind is all that has ever been awakened in the barbarian or the savage, and that mind has no moral status, no moral attributes, notwithstanding he may worship some god.

This brings us to the question: Has Man, naturally, an ethical character? The "Synthetic Philosophy" denies that he has, but claims, on the contrary, that all the moral nature that Man has now has come into his nature, little by little, from experience. And that it is due to this synthetic aggregation that Man has arisen from brutish, barbaric ignorance to his present state of civilization and moral standing. This phase of the question will be discussed in a following chapter.

We have it abundantly demonstrated that savages and barbarians have mental capacity and intelligence, when we see a student from the "Darkest Africa" graduate from Yale College at the head of his class; a native Australian graduate from another American college; and a native of Japan taking the prize at the University of Michigan, besides three State prizes for oratory. These instances prove that, while they, the lowest specimens of mankind, have not the energy, because of environment, to raise themselves, as a whole, out of barbarism, individually they have the intellect and the capacity to acquire an education, under proper environment, that equals our most intelligent sons of the Anglo-Saxon race. Now, where did they get this intelligence and capacity, if it were not handed down to them from their progenitors, even reaching back to the beginning? These representatives of the human race could not have come otherwise by their intelligence. Indeed, we have every reason to believe that such has been the case from the creation of Man. Man has had normal intelligence and capacity from the beginning, perhaps not all in equal degree, but as nearly so as it is possible for all members of a genus to be normal. But some have been hampered and retarded,

because they did not or could not assert their individuality; but have been led hither and yon by incompetent and evil-minded leaders, who have by some means been placed as such, and created an environment not compatible with advancement, until degradation and degeneration had robbed them of all ambition, and they became satisfied with their condition.

In all these cases they did not advance, but degenerated, which is the natural result. A people cannot stand still, but must either advance or degenerate. There is every reason to believe that the native Australians are the same blood as were the primitive Egyptians. One branch migrated to Egypt and became a great and highly civilized and progressive people, under competent leadership; but they cut short their existence by reason of excesses in luxurious revelry. The other branch stayed, possibly, where they were born, or migrated to that part of the country, then, which is now Australia; and, metaphorically speaking, never woke up. Very much like two brothers back in Ohio. One went West when he became a man, and there developed into a sturdy manhood and accumulated a competency—was, in short, a useful and progressive citizen. The other stayed at home and farmed the old place; was perfectly satisfied there; never was outside of the county in which he was born; had no ideas which led him outside of himself and his immediate surroundings; was afraid to ride on a railroad train; and lived and died in the same house in which he was born. Now, these conditions were not necessarily so, but were so from choice; one seemingly had as much native ability as the other.

We do not believe for one moment that "Man, when he first became Man, was just a step above the brutes around him"; but, on the contrary, we believe that Man, when he was first created by God, had as much native ability, capacity and intelligence as he has to-day. Of course he did not have as much learning then as now, but he was created pure, with an upward tendency; but with a dual character and the ability to choose. It is a libel to say that God created Man, making him a free moral agent, and

did not give him the necessary capacity and intelligence to carry out God's commands.

But, comparatively speaking, what we call civilization is a matter of opinion largely. What one people consider the highest type of civilization, another would call a species of barbarism. Mr. Roswell Field has shown this well in the following. He is visiting the Igorotes and talking with Hi-Ho, of the village:

"But they are tremendously interested in the American style of dancing," went on Hi-Ho, "and they packed the ring whenever Abe seized Mrs. Klawhammer in a deathly struggle and capered and cavorted. And they went into roars of laughter when Abe's legs got twisted up and Mrs. Klawhammer's side-combs fell out, and he would make a fresh clutch to get a stronger grip. It certainly was an excruciatingly funny spectacle. . . . Of course there was a great deal of opposition to what many of our people considered a most indecent exhibition, and the Igorote Purity League and Woman's Protective Association protested violently and called on our chief in a set of resolutions to suppress the show, but I, in turn, acted with vigor, and threatened to send for United States troops and the missionaries, if Anglo-Saxon reforms were not permitted, whereupon the opposition subsided. I do not think they cared much about the troops, but they were terribly afraid of the missionaries."

"Then you favor the waltz?"

"By no manner of means," replied Hi-Ho; "but I had to help out the show and save Abe. Indeed, I think your style of dancing not only monstrously absurd, but positively licentious. Is there any grace or moral purpose in a lot of men and women clutching one another and wrestling over a polished floor, bumping into their opponents, or partners, or whatever you call them, and sprawling about like so many wild animals of the forest? With us the men dance majestically and rhythmically in a circle, while the women stand apart, gracefully waving their shapely arms and making simple dignified movements of the unincumbered feet. I am aware this is regarded by you as uncivilized, savage, barbarous, but it seems to me in much better taste."

This jocular description at our expense is meant to show that an Igorote even may criticize our customs as well as we do theirs; but so long as there is no universal standard of civilization, culture and customs adopted, each people has to judge for themselves what constitutes the highest civilization. It would be a hard matter to define civilization so as to meet the approval of all the people in the world. It is much easier to say that it is not this, or it is not that, than to say what the highest civilization really is. But it is entirely safe to say that the highest type of civilization does not consist entirely of vast, inestimable fortunes of gold; or long rows of twenty-story buildings; or long trains of steam and electric cars, electric lights, automobiles, phonographs, "peek-a-boo" or "see-more" shirt-waists, luxurious, licentious revelry or divorce courts, while it is not safe for a lady to appear on the streets, unattended, even in broad daylight; or where the courts are convicting public officials of boodling and grafting; or where a judge of the court is acknowledging himself to be a member of "get-rich" gangs, organized on purpose to defraud unsuspecting people out of their cash, without prospect of remuneration; while murders and unmentionable crimes are of daily occurrence. These are certainly not the attributes of the highest type of civilization. Nothing but their material prosperity lifts such a people out of the rôle of savages and barbarians.

In an address by President Jacob Gould Schurman, to the Cornell University graduates, he says: "A waning Christianity and a waxing Mammonism are the twin specters of our age. And between them not only the natural idealism of the spirit, but the Ten Commandments and the Golden Rule are disavowed or disregarded, and, in their place—at least six active days of the week—is the ruthless struggle for life and the success of the strongest, the most cunning, or the most highly favored, whether by powers supernal or by powers infernal.

"The idle rich are an excrescence in any properly organized community. And in a democratic republic, in which every Man has a vote, be assured that the rights which convention grants to property would be swept away

if the propertied classes were to become idle, luxurious, selfish, hard-hearted, and indifferent to the struggles and toils of less fortunate fellow citizens. The vice of the age is that men want wealth without undergoing that toil by which wealth is created. Among the rich and well-to-do business and professional classes grafting has been so common that the idea of commercialism has become a byword and a reproach.

"The whole nation needs a new baptism of the old virus of honesty. But the nation, thank God, is beginning to perceive the fatal danger. The reaction caused by recent revelations testifies to a moral awakening."

The real truth is that there is more or less barbarism included in the habits and customs of all civilizations, whether we acknowledge it or not. The lines of demarkation do not run straight, but zigzag notably, and, in doing so, include many notions, habits and customs which, if not identical to, are on a level with or even below the level of the notions, habits and customs of certain barbarians. For a so-called Christian people, of intelligence and culture, to bend all their energies to piling up dollars, because of the love of the dollar itself, or so as to enable the holders of the dollars to indulge in luxurious, licentious revelry and debauchery, certainly verifies the truth of Saint Paul's opinion and declaration that "The love of money is the root of all evil"; and the criticism of President Schurman is indeed a sad commentary on the character of the citizenship of the United States of the twentieth century.

Lest, some time in the future, some one from a foreign clime should see, read and accept the above as an estimate of the character of the civilization of this people at large, it will be noted that the foregoing is only one aspect of the character, customs and bent of the people of the twentieth century in the United States. More accurately it is a picture drawn to life of the character, customs and notions of two or three cosmopolitan cities in the United States. But the civilization of a people must not be judged from one viewpoint alone; and so I cannot pass without noting that the splendid system of schools in the United States is the best in the world and

aims at the education of the masses. The universities, colleges, academies and seminaries are abreast of the most advanced, and afford literary and scientific instruction equal to the best; so that the average mental culture is abreast, if not in advance, of any nation in the world.

It was held by M. Auguste Comte and others eminent in letters that "Nations necessarily pass through a theological, a metaphysical and a positive or scientific stage of development." I would think that the United States is just coming into the scientific stage in their development.

The charitable institutions are more numerous and of a higher standard than those of any other nation in the world. They consist of hospitals for the sick, asylums for the insane, deaf, dumb and blind, homes for the aged and feeble-minded, alms-houses for the poor, etc. Many of these institutions have been established by various religious denominations, and are supported by the same; while State institutions are provided in all the States, including "penal resorts," besides municipal charitable institutions in nearly every city.

The Christian religion is the most prominent belief and acceptance, though there are Jews, Mohammedans, Buddhists, Brahmans, sun worshipers, spiritualists, Deists, Atheists, besides some heathen idolaters; in short, all manner of beliefs, and all shades of the different systems are represented. The Puritanic doctrine has died out, and the milk of religious diet is greatly diluted, even in the Christian doctrine, by all manner of mixtures, under the plea of liberality in belief. In the cities, especially, most churches have degenerated into the likeness of clubs for the rich and fashionable, there being all grades. The poor people have largely quit attending church, especially among the Protestant denominations, because they are not welcomed by the "smart set" that run the churches.

The vanity and frivolity of extravagance in dress is sapping the life-blood of good sense and decency, especially among the very rich. But some people say it helps trade, and while it breeds more frivolity and helps to keep the dockets of divorce courts full to overflowing, it pos-

sibly is a good way to spend the dishonestly gained millions of money. A clipping is here presented that exhibits the scandalous frivolity that unbridled luxury in dress has come to in the United States:

Miss ——, daughter of ——, banker, spends more than $100,000 a year on clothes, and even at that declares she has to practice economy.

Miss —— is famous in society for her beauty and raiment. Her father, who formerly was a partner of ——, is a millionaire, and there is no limit placed on her dressmaker's bills. It is of her own volition that she endeavors to keep the annual expenditure for her wardrobe reasonably near the $100,000 mark. It is the easiest thing in the world, Miss —— says, for a woman who can afford it to spend much more than $100,000 a year on her clothes without being extravagant.

In her father's home at Riverdale-on-the-Hudson, a reporter, who doubted the possibility of a wardrobe which cost $100,000 each year to replenish, asked Miss —— how it was done. The banker's daughter, whose beauty is of the statuesque order, consented, though a little reluctantly, to explain.

"You see, when one is permitted to indulge a cultivated taste or esthetic idea without concerning herself about the expense," said Miss ——, with a smile, "a bill will run into thousands with remarkable rapidity. For instance, it would only require one hundred dresses at $1,000 each to reach $100,000. A thousand dollars is not an extravagant price to pay the best Parisian dressmakers, especially when you consider everything is hand-made. Indeed, a gown easily may cost from $5,000 to $10,000 without in the least betraying its price to the casual observer. A gown of real lace may cost almost any price. One hundred gowns a year is a conservative estimate for the woman who entertains and goes out a great deal, for some women make it a rule never to wear the same gown a second time. The duty on imported goods also is high. I designed everything I wear, for even a consummate artist never can know what suits you as well as you yourself know it. And, then, one must pay for the name of the artist in gowns quite the same as in paintings. Paquin told me his best customers were American women, and doubtless money is spent lavishly here because fortunes are so quickly made.

And, then, New York women spend more upon their wardrobes than other women, because we have not two seasons, but four, and that means new gowns, hats, coats, wraps, etc., four times a year. We must have gowns for the country, gowns for the city, gowns for the theater, yachting, driving and automobiling, to say nothing of reception, calling, dinner and ball gowns. The simplest cannot be had for less than $125 by order from abroad. For instance, the simplest muslin frock of yore, which was a modest affair, assumes now the

dignity of a new name in the lingerie gown, and can cost almost any price. Formerly it was meant to stand a siege in the laundry, but one would hardly trust to the tub a dimity 'en princess' or 'Louis XVI,' embellished with silk embroidery and real lace ribbons, which cost from $150 to $1,000.

"The hats of to-day, too, are so unlike the hats of yesterday that one must trust the building of a chapeau only to one who understands her art. A fashionable woman must pay from $35 to $150 for a hat. For, after all, the hat is to the face as a frame is to the picture. Then there is the matter of shoes and parasols. Fashion has decreed that shoes must match the gown. These must be made to order. The parasol also must match, or be so constructed as to enhance the beauty of the gown and the wearer. It easily will cost from $18 to $20.

"You may think gloves to be a mere trifle of the expenditure on a woman's wardrobe, but they, too, must be made to order. You usually can count on from six to twelve dozen pairs a year. And hose for evening gowns may cost as high as $50, if embroidered or lace trimmed. Lingerie is no small item, for it must all be made by hand, and will run up to $5,000 or $10,000. One must have wraps and jackets to suit various seasons of the year, and the woman with a fad for furs will have to exercise care if she wishes to limit herself to $100,000 a year."

The foregoing speaks for itself, and needs no comment; it shows the evolution of customs and notions of the people, as the dollars pile up; the rush and dash and agitation; the "bustling about in foolish haste, in search of pleasures vain, that from them fly," has destroyed the old customs and the cultivation of friendship's charms.

Fashions in dress have kept apace with the changes in modes of travel. In the old times, when stage-coaches furnished the most rapid means of transportation, and it took months to travel distances that we now cover in a day, people stayed at home most of the time. A journey was an event to be prayed for, undertaken with trembling and prayer, and then talked of, after it was over, for the rest of one's lifetime.

But now, with lightning express-trains tearing over the country in every direction, at all hours of the day and night; with steamships, as floating palaces, crossing the Atlantic in less than five days' time; with private yachts free of all the waters of the world, and with automobiles spinning along at the rate of forty and fifty miles an

hour, the man who stays at home is an exception. We are as uneasy as flea-inhabited dogs. Nobody is contented, nowadays, to rest and think and cultivate the delights of friendship: that day is relegated to the past. We must all rush around the surface of the earth as though the old fiend were after us. California, Palm Beach, the Riviera, Egypt in the winter; the North Cape or Switzerland in the summer. Indeed, Americans are found everywhere at all seasons of the year, except at home. And, even when we are not gallivanting about the world, we are still perpetually in motion, in motor cars, unwilling to stay anywhere long enough for the cylinders to cool off, metaphorically speaking.

Perhaps all this is but the outward manifestation of the real disease within, the gold mania, which is now a raging epidemic, of national extent, and will not permit any of us to be at ease. Our nerves are so overwrought by the fierce battle for wealth that we simply cannot sit still. One of the most unhappy results of this madness is found in the decline, almost to extinction, of friendship. Apparently we no longer have friends, but only acquaintances. We never stay long enough in any one's company to experience a friendly feeling for him. If, like the man in the play, we meet a man, and exclaim: "A sudden thought strikes me, let us swear an eternal friendship," the next moment we shake his hand, mount our car and never see him again.

As Schopenhauer says: "True and genuine friendship presupposes a strong sympathy with the weal or woe of another, purely objective in its character and quite disinterested; and this, in its turn, means an absolute identification of self with the object of friendship." How can we qualify ourselves for the title of friend, according to that definition, when we are always in too much of a hurry to converse with anybody longer than five to ten minutes at a time?

Rightly cultivated, friendship is one of the greatest blessings and pleasures life can give us, and we have sacrificed it for our gold and motion mania. Even during those rare intervals when we are forced to be still, we

cannot bear to converse, but must play bridge, go to the theater, or do something else that will benumb our minds. These things do not breed friendship, any more than business does; and the consequence is that friendship is in danger of becoming as obsolete as the saber-toothed tiger.

CHAPTER IX

THE ANTIQUITY OF MAN; CHINA—MAN'S PRESENT STATUS, CONTINUED

THE "Library of Universal History" says: "The Chinese Empire contains more than five millions of square miles, or twice the area of the United States, and has a population of almost five hundred millions, or about one-third of the number of inhabitants of the globe. China Proper, inhabited by the Chinese, is about half the size of Europe, and has about four hundred millions of human beings within its limits. Of the eighteen provinces of China, many contain more inhabitants than some of the great European monarchies. China proper contains about one-fourth part of the territory of the Empire, and three-fourths of the population. It is the portion that comprises that peculiar nation—the Chinese.

"The Chinese Empire is the oldest now existing on the face of the earth, and has until recently formed a separate world, as it were, from the rest of mankind, with a history distinctly its own and not connected with that of other nations. While great empires have successfully risen and fallen in other parts of the world, China has remained the same for at least five thousand years, surviving all the great nations of Western Asia, Northern Africa and Europe. It is the only ancient empire which has continued to the present time. While other nations have passed away, while empires have risen and fallen in other parts of Asia and the world, in accordance with the inexorable law of change, which seems to govern human affairs, national as well as individual, China furnishes an example of permanence among nations. Its civilization appears to have existed from time immemorial, and may have existed before that of the Nile valley; and Egyptian

kings who erected the great pyramids may have lived after the founders of the Chinese Empire. Porcelain vessels, having Chinese mottoes upon them, have been discovered in the ancient Egyptian tombs—in shape, material and appearance exactly resembling those made in China at the present time—and the great Italian antiquary of this century (*i. e.,* the nineteenth), Roselini, believed them to have been imported into Egypt from China by kings who reigned in Egypt about the time of Moses or before.

"China and its institutions have outlived everything else in the world. Ancient Egypt, Chaldea, Assyria, Babylonia, Media, Persia, Judea, Greece and Rome have all risen, flourished, decayed and died; but China, probably more ancient than any of them, has remained the same to our own day. It has had twenty-two successive dynasties; but its customs and institutions, all that constitute the life of a nation, have continued fixed and permanent. The present European nations, even the oldest of them, are young in comparison with the nation of Eastern Asia. At the time when the Egyptian kings were building their pyramids, China had a settled government and a high state of civilization, from which, if it has not materially advanced, it has not receded.

"The Chinese have an extravagant chronology, making their country many thousand years old; and their early history, like that of other Asiatic nations, is lost in the dimness of a very remote antiquity. Their fabulous chronology includes dynasties of sovereigns, each of whom reigned eighteen thousand years; but, subsequently, their lives dwindled to so short a period that the reigns of nine kings are embraced in forty-five thousand six hundred years. The ten ages from Tan-Kou, or Pankwo, whom Confucius mentioned as the first man, are computed by Chinese writers to comprise ninety-six million years. But the Chinese now regard the fabulous period of their history with contempt. Kung-fu-tsee—whose name has been Latinized into Confucius—gives an account of the Chinese monarchs for a period of two thousand five hundred and sixty-two years before his time. (Thus carrying the date of the establishment of

the first dynasty to the year 3113 B. C., about 146 years before the Egyptian Empire was established, according to Baron Bunsen's estimate; and 413 years before that date, according to Sir Gardner Wilkinson.)

"The Chinese gradually developed a civilization; and early history speaks of sovereigns teaching their subjects every science and craft, from astronomy to agriculture; from preparing machinery for war to making musical instruments. It appears that the crown was at first elective, the people assembling on the death of a sovereign and choosing the person whom they considered most fitted to be his successor; the person so chosen being generally the prime minister of the deceased monarch.

"The history of China dates back almost five thousand years, but the early portion of it is wholly mythical. Chinese writers tell us that the founder of that old monarchy was Fo-Hi, who became Emperor about 2852 B. C. (only 152 years before Sir Gardner Wilkinson's date for the establishment of the Egyptian Empire). It is said that he taught his subjects how to raise cattle, instructed them in the art of writing, and introduced the institution of marriage, and the divisions of the year. His successor, Chin-Nong, invented the plow, and taught his people agriculture and medicine. The third Emperor, Hwang-Ti, is said to have invented clocks, weapons, ships, wheeled vehicles and musical instruments, and to have introduced coins and also weights and measures. Ti-Ku, the fourth Emperor, established schools, and introduced the custom of polygamy. With his son and successor, Yau, who ascended the throne of the Celestial Empire in B. C. 2357, the more authentic history of China begins. He greatly advanced the civilization and wealth of his people, and constructed many roads and canals."

For the next two thousand years popular revolutions frequently occurred in China, hurling one dynasty from the throne and installing another in its place, until the sovereign's power became so weak and insecure that civil wars and wars with the Tartars well-nigh consumed the Empire.

I quote further from the same authority: "In 246 B. C., Ching-Wang ascended the throne and ruled with

such vigor as to re-establish stability to the throne and Empire. He builded the great wall across the northern frontier of China Proper, which is the most stupendous work of defense ever erected by human hands. Next to the great pyramids of Egypt, the great wall of China is the most ancient monument of human labor still standing. This great wall extends fifteen hundred miles, from the Yellow Sea to the western province of Shen-si and far into Tartary. To procure a sufficient number of laborers for so great an enterprise, the Emperor ordered that every third laboring man throughout his dominion should be forced to enter his service; and these were obliged to work like slaves, without any further pay than a bare supply of food."

CHINESE CIVILIZATION

"The Chinese belong to the great Mongolian race, which comprises the nations of all Eastern and a great part of Central Asia—the race to which the Japanese, the Coreans, the Manchoos, the Mongols proper, the Thibetans, the Burmese, the Siamese and the Anamese belong. Compared with Christian nations, they have been remarkably peaceful. We have already referred to the unchangeable character of its institutions, its laws and customs. The oral language of China has remained the same for the last thirty centuries. The great wall is now over two thousand years old. All China was intersected by canals at a very early period, when none existed in Europe. The Great Canal, like the Great Wall, is unrivaled by any other remaining work of the kind. It is twice as long as the Erie Canal, is from two hundred to a thousand feet wide, and has many solid granite tanks along a great portion of its course.

"In China have been found tens of thousands of wells like the celebrated artesian wells of Europe and America; and these were sunk, in very ancient times, to procure salt water. The manufacture of silk was understood in the most remote antiquity, the cocoons of the silk-worm having been unraveled by a Chinese princess. The Chinese have been acquainted with the circulation of

the blood many ages before Harvey's discovery in Europe."

In the Western World, including Europe, the historical, professional and popular belief was that William Harvey was the discoverer, in 1628, of the circulation of the blood. His memory is indissolubly connected with the great event. But as one by one our idols are shattered by the revelations of time, so this supposed historical fact is controverted on seemingly good grounds; and we are really beginning to think that, "truly there is nothing new under the sun."

An editorial writer in *American Medicine*, July 2, 1906, controverts the statement that Harvey discovered the circulation of the blood at all. He examines the claim made by the countrymen of Michael Servetus, who was burned as a heretic by John Calvin in 1553, that the circulation of the blood was known to him three-quarters of a century before Harvey's day, and concludes that we must acknowledge its justice. In Servetus's so-called heretical work, "De Christianisimi Restitutione," only two copies of which are now in existence, occurs the following passage: "The vital spirit is the result of a mingling in the lungs of the inspired air with the elaborated, thin portion of the blood, which the right ventricle of the heart transmits to the left. But this passage of the blood does not, as vulgarly believed, take place through the median wall of the heart; but by a clever device the thin blood is driven from the right ventricle of the heart through the lungs by a long (circuitous) route; it is prepared by the lungs, is rendered (reddish) yellow, and is transferred from the arterial vein into the venous artery. It then becomes mixed with the inspired air in this same venous artery, is cleaned of soot by (the act of) expiration, and thus the entire mixture is finally drawn (into the arteries) from the left ventricle of the heart by the diastole—a suitable pabulum, so that it becomes (is converted into) spirit (air?)."

This constitutes, according to the writer, a much more lucid account of the circulation than that written by Harvey in his book, "De Motu Cordis," which is declared to be "verbose and somewhat muddled." Furthermore,

Cæsalpinus is put forward by the Italians as the discoverer, in a volume published in Venice in 1571. This author also clearly describes the circulation of the blood. The editorial writer and commentator concludes: "Every discerning reader of the above passages will see that Servetus and Cæsalpinus had, long before the birth of Harvey, as clear ideas of the pulmonary circulation as were entertained by the latter. And with regard to the general circulation, notwithstanding all the rubbish written about the arteries carrying air (aer-twentieth-century oxygen), the fact is unquestionable that it was known to Hippocrates himself, perhaps, the continuously definite current in the veins. The valves of the latter were shown to Harvey at Padua by Frabicius ab Aquapendente. But their use was not made clear. "After Harvey returned to England, in discussing these structures with an engineering friend, the latter pointed out that, being placed with their free edges toward the heart, their only possible use was to maintain a continuous current in that direction. The crux of the circulation was solved at last. And William Harvey *discovered* ———?"

We are now told that the "Heathen Chinese" knew of the circulation of the blood many centuries before Harvey was born, and that the fact was made known in Europe by returning travelers and missionaries. May it not be very probable that the Chinese were really the discoverers of the circulation of the blood? The ancient Egyptians embalmed their dead not only by swathing the body in bandages, but by injecting the bodies with a fluid; but it is not known whether or not they injected into the blood-vessels.

Quoting further from the "Library of Universal History": "The Chinese inoculated for smallpox in the ninth century, and invented printing about the same time. Their bronze money has been in use since B. C. 1100, and its form has remained the same for almost nineteen centuries. The mariner's compass, gunpowder and the art of printing, as practiced by the Chinese, were made known in Europe by Christian missionaries who had returned from China. These missionaries, coasting the shores of the Celestial Empire in Chinese junks, saw a little box

with a magnetic needle, called Ting-nan-Tchen, or 'needle which points to the south.' They likewise observed frightful engines used by the Chinese armies, called Ho-poo, or fire guns, into which an inflammable powder was put, producing a noise like thunder, and throwing stones and pieces of iron with resistless force. Father Huc says that the Europeans who entered China were as much surprised at the great libraries of the Chinese as at their artillery, and at the elegant books printed rapidly upon a pliant, silky paper by means of wooden blocks.

"The customs of this peculiar people are entirely opposite to our own. They are our antipodes in everything. Their magnetic needle points to the south, and they say 'west-north' instead of north-west; 'east-south' instead of south-east. Their soldiers wear petticoats, satin boots, and bead necklaces, carry umbrellas and fans, and make a night attack with lanterns in their hands, as they stand in greater dread of the dark than of the enemy. They prefer to have their fireworks in the daytime. Ladies ride in wheelbarrows, and cows are driven in carriages. In China the stocks are hung upon the neck, instead of put on the feet. The family name comes first, and the personal name afterward, so that instead of saying John Smith, they say Smith John. In mounting a horse the Chinese get on on the right side. Their old men fly kites, while the little boys look on. They use the left hand instead of the right in greeting and farewells, and keep on the hat as a sign of respect. Their visiting-cards are printed in red and are four feet long. They regard the stomach as the seat of understanding. Their boats are drawn by men, but their carriages are moved by sails. A young and pretty woman is a slave, but an old and withered one is most highly esteemed and beloved by the entire family. The Emperor is most profoundly reverenced, but the empress-mother is far more highly esteemed. The most highly prized article of furniture is a camphor-wood coffin, which is always kept in the best room in the house. The legal rate of interest on money is thirty-six per cent. They warm their wine. They are great epicures, and somewhat gourmands; for, after dining on thirty dishes,

they will sometimes finish up on a duck. They devour bird's nests, snails, and the fins of sharks. Their mourning color is white. They mourn for their parents for three years. The chief room in the house is called 'the hall of ancestors,' of whom there are pictures or tablets set up against the wall, and these are worshiped. In China, more than in any other country, 'what is gray with age becomes religion.' The unwritten constitution of old-age usages continues to act. Says Du Halde: 'A principle as old as the monarchy is this, that the State is a large family, and that the Emperor is in the place of both father and mother. He must govern his people with affection and goodness; he must attend to the smallest matters which concern their happiness. When he is supposed not to have this sentiment, he soon loses his hold on the reverence of the people, and his throne becomes insecure. The Emperor consequently tries to preserve this reputation, so as to retain the love and respect of his subjects.'"

Andrew Wilson says: "The Chinese people stand unsurpassed, and probably unequaled in regard to the possession of freedom and self-government. The real power of the Chinese government is in the literary class. Though nominally a monarchy, the government is practically an aristocracy of learning, as the humblest and poorest man's son can reach the highest position in the Empire if he has the necessary ability and merit. It is not an aristocracy of rank or birth, like that of England; nor an aristocracy of wealth, like that of the United States; nor a military aristocracy, like that of Russia; nor a priestly aristocracy, like that of ancient Egypt, and some modern countries, as that of Paraguay under the Jesuits, or that of the Sandwich Islands under the Protestant missionaries. The Chinese aristocracy is a literary aristocracy.

"All the civil offices in the Empire are given as rewards of literary merit. Competitive examinations are held, and only those passing the best examinations are eligible to office. The utmost impartiality is observed in conducting these public examinations. When the candidates enter the hall of examination they are searched for books and manuscript from which they might have got-

ten aid in preparing their essays. If any are detected in sly practices, they are disgraced for life. Three sets of subjects are assigned, each requiring two days and a night, and none is permitted to leave his small apartment until the expiration of that time. No erasure or correction is permitted."

Does the foregoing reveal the secret of the perpetuation of the Chinese Empire and civilization? It is the only nationality or government that pursues such a course, and it is the oldest civilization in the world to-day. The distribution of the offices on the score of merit alone secures efficiency, and eliminates entirely the extremely pernicious influence of "pull," whether it be political, social, or the pull of wealth—the securing of office for purely money consideration—or through the influence that affluence begets among its worshippers, which respects not the man, but the wealth which he possesses. All of which, or any one of which, may form the basis upon which appointive offices are filled in this and other countries, to a great extent. Is it any wonder that official corruption and inefficiency are so prevalent here? China is now and always has been the antithesis, in its civilization, customs and practices, to all the nations that now live or have lived since the world began, so far as we know; and in that antithesis, it seems, must be found the secret of its perpetuation. It may all be summed up in one short sentence: The absence of political, social and individual moral corruption, and profound respect for the rights of their fellowmen. Whereas, it is the adoption and prevalence of the direct opposite of this sentiment, viz., political, social and individual moral corruption, and the entire disregard for the rights of their fellowmen, that history says has been the cause, directly or indirectly, of the extinction of every nation whose light has gone out. Now, if this be the truth, if such be the case. China can well afford to be the laughing-stock, as it is to-day, of all the Western nations. Surely its conservatism and exclusiveness is to be applauded.

Again we quote: "The Chinese have three distinct religious systems. Concerning the first of these, indeed, little is known; but it seems to have been a species of mono-

theism combined with ancestral worship. At the epoch of Confucius this had degenerated into general religious indifference. His influence restored the traditional practices, but did not tend to the revival of faith in Divine revelation. He laid the deep foundation of a moral and philosophical creed which for many centuries has remained indelibly marked upon the Chinese character. Taoism was a similar system proposed by the rival teacher, Lao-tse. Buddhism was the third religion. It was introduced, under the name of the religion of Fo, about 68 A. D., and now commands a large number of adherents. There have been no considerable modifications in the Chinese mind since that time; though the influence of the Western nations is beginning, at the present day, to become perceptible, and the end of their long-continued conservatism and exclusiveness seems to be within sight."

CHINESE LITERATURE

"The Chinese language, unique in itself, is a monument at once of the intelligence and of the limitations of the Chinese character. It is composed entirely of monosyllabic roots, is devoid of inflections, and practically grammarless. By the manner of its use in a given sentence, each root becomes at need any required part of speech. So formless a condition of the instrument of human intercommunication would indicate an almost savage state of the people making use of it; but the Chinese were comparatively civilized while Europe was still in barbarism. They invented a system of writing no less singular than their spoken language. Its plan is ideographic, each character standing for an idea, of which a conventional drawing was made. As the language developed, the original pictures were combined to figure new ideas. It was only by slow degrees that any attempt at a phonetic system was compiled. The spoken tongue remains one of the poorest in existence. The necessity of expressing current ideas forced the expedient of varying the meaning of the rigid monosyllables by changing the intonations with which they were uttered. A word uttered with a falling inflection, for instance, has a sig-

nificance different from that belonging to the same word spoken with an upward movement of the voice. The same peculiarities have doubtless retarded the development of the Chinese character, and have tended to their national isolation. The expression of their thoughts is necessarily confined to the briefest possible statement. There can be no variation in the order of words in a sentence without changing the meaning of the words themselves. So, there are no celebrated Chinese litterateurs, because, from the inflexible character of their written language, it is impossible to give expression to the lights and shades of thought and emotion; they simply refuse to be conveyed through such a medium; there could be no expression of eloquence, passion and dignity conveyed by their plain, cold, ideographic characters."

CONFUCIUS

"The whole mind and conduct of the Chinese race bear the impress of Confucianism. Yet Confucius, who lived twenty-five centuries ago, claimed no divine mission, nor even any radical originality in his philosophical method. In his life he scrupulously followed the traditions of the elders; he gathered and arranged the recorded wisdom of his predecessors, and professed only to transmit them to posterity. The five classics, thus selected and edited, constitute to-day the essence of wisdom and rule of life for one-fourth of the human race. Only one of these books —a history of his own province—was written by Confucius himself; but his disciples recorded the most minute particulars of his behavior and preserved his sayings. His maxims, purely ethical, are also strictly rational, and never appeal to the supernatural. While observing the established religious rites of his country, the purport of his philosophy is agnostic. He has exerted greater influence on the minds of many millions of his fellow creatures, by means of his writings, than any other man who ever lived, excepting the writers of the Jewish and Christian Scriptures. The influence of Confucius has maintained in China that great reverence for parents, that ardent family affection, that love of order, that esteem for

learning and that respect for literary men, which lies at the foundation of all the institutions of China. His minute and practical code of morals, which is studied by all the learned, and which embraces the sum of knowledge and the principle of government in China, has ever since exerted an incalculable influence on the hundreds of millions of human beings in the Celestial Empire. This fact is abundant evidence of the greatness of the renowned Chinese law-giver and moral philosopher. Confucius must have been one of the great intellects of the human race. He was one of the few who have devoted themselves to the moral betterment of their fellow-men. He endeavored to infuse the principle of the purest religion and the most perfect standard of morals in the character of the whole Chinese people, and was successful in his laudable efforts.

"Confucius devoted his life to instructing the Chinese people in his moral and religious principles. His system is more of a moral philosophy than a religion in the general sense of the term, yet it teaches men how they ought to live. The four things which he is said to have taught were learning, morals, devotion of soul and reverence.

"Among his many sage and pithy sayings are the following:

At fifteen years I longed for wisdom. At thirty my mind was fixed in the pursuit of it. At forty I saw clearly certain principles. At fifty I understood the rule given by Heaven. At sixty everything I heard I understood. At seventy the desires of my heart no longer transgressed the law.

He is a man who through his earnestness in seeking knowledge forgets his food, and in his joy for having found it loses all sense of his toil, and, thus occupied, is unconscious that he has almost reached old age. (Said of himself.)

To rule with equity is like the North Star, which is fixed and all the rest go round it.

The essence of knowledge is, having it, to apply it; not having it, to confess your ignorance.

Formerly, in hearing men, I heard their words, and gave them credit for their conduct; now I hear their words and observe their conduct.

A man's life depends on virtue; if a bad man lives, it is only by good fortune.

Some proceed blindly to action, without knowledge; I hear much, and select the best course.

Faithfulness and sincerity are the highest things.

When you transgress, do not fear to return.

Learn the past and you will know the future.

The Master said, Shall I teach you what knowledge is? When you know a thing, to hold that you know it, and when you do not know a thing, to allow that you do not know it; this is knowledge.

To see what is right and not to do it is to want courage.

Worship as though the Deity were present.

He who offends against Heaven has none to whom he can pray.

If my mind is not engaged in my worship, it is as though I worshiped not.

Coarse rice for food, water for drink, the bended arm for a pillow, happiness may be enjoyed even with these, but without virtue, both riches and honor seem to me like the passing cloud.

Grieve not that men know not you; grieve that you know not men.

A good man is serene; a bad man is always in fear.

There may be fair words and an humble countenance when there is little virtue.

One of his disciples said: If you, Master, do not speak, what shall we, your disciples, have to read? The Master said: Does Heaven speak? The four seasons pursue their courses, and all things are continually being produced; but does Heaven say anything?

Learning without thought is labor lost. Thought without learning is death to the mind.

Let loyalty and truth be paramount with you.

Have no friends not equal with yourself.

If you have faults, shrink not from correcting them.

It will be noted from the foregoing that the antiquity of this great people dates back to about 3,000 years B. C.; perhaps the migrations into China occurred a century or two before the migrations into Egypt. Practically the migrations into these respective sections of the world occurred at or about the same time. They are two distinct families of the race, and that fact is a sufficient reason for one going East and the other going West. The simple facts of one family being in the far East, and the other family being in the, at that time, far West, almost on a line parallel with the Equator, also strongly indicate that both families have migrated from some intermediate and common point of departure on the earth's surface.

The fact that both peoples developed high standards

of civilization at so early a date indicates plainly that they were intelligent beings when they migrated to their respective future homes. We have no evidence that the civilization of either people in any way influenced that of the other. And it is a conceded fact that these two civilizations were the first civilizations in the world, so that neither could have received any outside influence, only the one from the other.

Believing it more authentic and more convincing to substantiate our position by facts from the pages of history, than to merely advance the claim, we have dwelt at considerable length on the histories of Egypt and China. We have sought to show by this evidence that Man has shown high mental, moral, social, mechanical and literary qualifications from his very earliest history. Higher, indeed, in the first two civilizations, than in succeeding ones. The civilizations of Egypt and China were of a higher type three to four thousand years ago than exists to-day in the same countries. This convinces us that there has been a deterioration in the *moral* status of the race, rather than a gradual, but continuous, improvement from the condition of total ignorance and savagery of the race as taught by evolution.

CHAPTER X

CHALDEA—THE PLACE OF THE BEGINNING—THE GARDEN OF EDEN LOCATED—WHERE ADAM WAS CREATED —THE FLOOD A LOCAL CATACLYSM

As Asia was the cradle of the human race, so the cradle of Asiatic history and civilization was the valley of the Tigris and Euphrates rivers. This fertile valley anciently embraced a number of territorial and political divisions, whose boundaries were often very indefinite. "The region between the two rivers called Mesopotamia by the Greeks (from *mesos,* midst, and *potami,* rivers). This was merely a geographical or territorial district, and not a political division. Chaldea, or Babylonia, was a political, as well as a territorial, division, situated between the lower course of the Tigris on the east, and Arabia on the west, and corresponding to the geographical region which the Hebrews designated as the land of Shinar. There is an actual date in Chaldean history as far back as 2234 B. C."

Professor Rawlinson says: "The Chaldean monarchy is rather curious from its antiquity than illustrious from its great names, or admirable for the extent of its dominions. Less ancient than Egyptian, it claims the advantage of priority over every empire or kingdom which has grown up on the soil of Asia. The Aryan, Turanian, and even the Semitic tribes appear to have been in the nomadic condition when the Cushite settlers of Lower Babylonia betook themselves to agriculture, erected temples, built cities and established a strong and settled government. The leaven which was to spread by degrees through the Asiatic peoples was first deposited on the shores of the Persian Gulf at the mouth of the 'Great River'; and hence civilization, science, letters, art, ex-

tended themselves northward and eastward. Assyria, Media, Semitic Babylonia, Persia, as they derived from Chaldea the character of their writing, so were they indebted to the same country for their general notions of government and administration, for their architecture, for their decorative art, and still more for their science and literature. Each people no doubt modified in some measure the boon received, adding more or less of its own to the common inheritance. But Chaldea stands forth as the great parent and original inventress of Asiatic civilization, without any rival that can reasonably dispute her claim."

ANCIENT CHALDEANS A VERY MIXED RACE OF PEOPLE

Some considerable difference of opinion exists as to the people who first settled in this fertile valley of the Tigris-Euphrates rivers; as to whether they were Semitic, or Hamitic-Aramenians, or Ethiopians. "Eminent German ethnic scholars and antiquarians, as Heeren, Neibur, Bunsen and Max Müller, say that the ancient Chaldeans belonged to the Aramaic race; that they were kindred with the Assyrians, Syrians, Hebrews, and Arabs. But the Mosaic narrative says they were Hamitic-Ethiopians. 'And Cush begat Nimrod (he began to be a mighty one in the earth; he was a mighty hunter before the Lord; wherefore it is said, Even as Nimrod, the mighty hunter before the Lord); and the beginning of his kingdom was Babel, and Erech, and Accad, and Calneh, in the land of Shinar.' This view was held by Berosus and Pliny." After fully stating the case, covering many pages, Rawlinson says: "It will be one of the objects of this chapter to show that the Mosaical narrative conveys the exact truth—a truth alike in accordance with the earliest classical traditions, and with the latest results of modern comparative philology."

Space will not permit the giving of his arguments in full, but they are quite plausible and perhaps conclusive that, at least in some parts of the country, the early settlers were Hamitic. The real truth is, as gathered from Rawlinson and other historians, that the early Chaldeans were a very mixed race of people; or rather it may be

surely said that there were at least four races of men, dwellers in the valley and along the shores of the Indian Ocean, extending eastward, all in close proximity to each other and intermingling; as the subjects of the early kings, and were designated as the "kiprat-arbat," the four nations, or "Abra-lisun," the four tongues. Rawlinson says: "In Abraham's time again the league of the four kings seems to correspond to a fourfold ethnic division of Cushite, Turanian, Semitic and Arian. The chief authority and ethnic preponderance being with the Cushite. The language also of early inscriptions is thought to contain traces of Semitic and Aryan influence. So that it is at least probable that the four tongues intended were not mere local dialects, but distinct languages, the representatives, respectively, of the four great families of human speech."

However, it may have been at the beginning of the settlement of the Chaldean territory. The races seem to have mixed and amalgamated until the Semitic race gained the ascendancy to the extent, it is acknowledged by all ethnic scholars, that when Abraham migrated to the northwest, the Semitic race was in control in the Tigris-Euphrates valley. The Assyrian monarchy, which succeeded the Ancient Chaldean monarchy, was Semitic; while later, the Babylonian Empire had again become "a very mixed race of people."

All these facts become very interesting when taken in connection with the theory of "the flood," which will be presented further along. When analyzed, they substantiate our position completely.

THE SCIENTIFIC ATTAINMENTS OF THIS PEOPLE

Rawlinson says: "No long, detailed account can be given of the textile fabrics of the ancient Chaldeans; but there is reason to believe that this was a branch of industry in which they particularly excelled. We know that, as early as the time of Joshua, a Babylonian garment had been imported into Palestine, and was of so rare a beauty as to attract the covetous regards of Achan, in common with certain large masses of precious metals.

The very ancient cylinder above must have belonged to a time at least five centuries earlier; upon it we observe flounced and fringed garments, delicately striped, and indicative apparently of an advanced state of textile manufacture.

"The only sciences in which the early Chaldeans can at present be proved to have excelled are the cognate ones of arithmetic and astronomy. On the broad and monotonous plains of Lower Mesopotamia, where the earth has little upon it to suggest thought or please by variety, the variegated heaven, ever changing with the hours and with the seasons, would early attract attention, while the clear sky, dry atmosphere, and level horizon would afford facilities for observations, so soon as the idea of them suggested itself to the minds of the inhabitants. The Chaldean learning of a later age appears to have been originated, in all its branches, by the primitive people; in whose language it continued to be written even in Semitic times.

"We are informed by Simplicius that Callisthenes, who accompanied Alexander to Babylon, sent to Aristotle from that capital a series of astronomical observations, which he had found preserved there, extending back to a period of 1,903 years from Alexander's conquest of that city. Epigenes related that these observations were recorded upon tablets of baked clay, which is quite in accordance with all that we know of the literary habits of the people. They must have extended, according to Simplicius, as far back as B. C. 2234, and would, therefore, seem to have been commenced and carried on by the primitive Chaldean people for many centuries. We have no means of determining their exact nature or value, as none of them have been preserved to us: No doubt they were at first extremely simple; but we have every reason to conclude that they were of real and substantial character. There is nothing fanciful, or astrological, in the early astronomy of the Babylonians. Their careful emplacement of their chief buildings, which were probably used from the earliest times for astronomical purposes, their invention of different kinds of dials, and their division of the day into hours which we still use, are all

solid, though not perhaps very brilliant, achievements. It was only in later times that the Chaldeans were fairly taxed with imposture and charlatanism; in the early ages they seem to have really deserved the eulogy bestowed on them by Cicero.

"It may have been the astronomical knowledge of the Chaldeans which gave them the confidence to adventure on so important voyages. Scripture tells us of the latter people, that 'their cry was in the ships'; and the early inscriptions not only make frequent mention of the ships of Ur; but, by connecting these vessels with those of Ethiopia, seem to imply that they were navigated to considerable distances. Unfortunately, we possess no materials from which to form any idea either of the make and character of the Chaldean vessels, or of the nature of the trade in which they were employed."

CHALDEAN LITERATURE

Chaldean literature was largely absorbed by and merged into Assyrian literature, after the revolt of the Assyrians and the establishment of the Assyrian monarchy, with its capital at Nineveh, so that in the ruins of Nineveh are found the most reliable official records of Chaldea.

"Assurbanipal, or as the Greeks called him Sardanapalus, is supposed to have stored in his palace at Nineveh not less than 30,000 tablets. Upon every work in his library his ownership was stamped as follows:

> "The Palace of Assurbenipal, King of Regions, King of Multitudes, King of Assyria, to whom the God of Nebo and the Goddess of Tasmeti have granted attentive ears and open eyes to discover the Writing of the Scribes of my Kingdom, whom the Kings my Predecessors have employed. In my respect for Nebo, the God of Intelligence, I have collected these tablets; I have had them copied; I have marked them with my name; and I have deposited them in my palace."

CHALDEAN ACCOUNT OF THE DELUGE

"This account was translated by George Smith from the eleventh of a series of tablets describing the adven-

tures of the mythical hero, Izdubar (or Gisdubar), supposed to be the same as Nimrod. The whole series of tablets relates his early life and exploits in hunting, his friendship with the faun Heabani, his victory over the tyrant Humbaba, the lover of the Goddess Ishtar, his illness, the death of Heabani, his wanderings to find his ancestor, Hasisadra, who for his piety had been translated to the fellowship of the gods. This ancestor relates to Izdubar the story of a great flood resembling, in general outlines, the narrative in Genesis, but stamped with the impress of the Chaldean religion. Shamas was the Sun-god.

"Shamas made a flood and spake, saying: 'In the night I will cause it to rain from heaven. Enter to the midst of thy ship and shut the door.' He raised a flood and spake, saying in the night: 'I will cause it to rain from heaven heavily. In the day I celebrated his festival. I had fear that day of watching. I entered to the midst of the ship and shut my door. For closing the ship I gave to Buzur-Sadirabj, the boatman, the palace with its goods.'

"In the morning began the raging of the storm from the horizon of heaven, extending far and wide. Vul in the midst of it thundered, and Nebo and Saru went in front; the throne-bearers went over mountains and plains; the destroyer Nergal overturned; Ninip went in front and cast down; the spirits carried destruction, and in their glory they swept the earth. The flood of Vul reached to heaven. The bright earth was turned to a waste. It swept the surface of the earth and destroyed all life. The strong deluge over the people reached to heaven. Brother no longer saw his brother; it spared no people.

"Even in heaven the gods feared the tempest and sought refuge; they ascended to the heaven of Anu. There the gods were crowded in droves, prostrate like dogs. Ishtar spake like a child, the great goddess uttered her speech: 'All were turned to corruption, and then I prophesied evil to the presence of the gods. As I prophesied evil, to evil were all my people devoted. I declared, the people whom I the mother have begotten, now like the young of the fishes fill the sea.' The gods, grieving for the spirits, were weeping with her; the gods,

seated in their places, with lamentation covered their lips for the coming evil.

"Six days and nights passed; the wind, deluge and storm overwhelmed. On the seventh day the storm was calmed in its course, and all the deluge, which had destroyed like an earthquake, was quieted. He caused the sea to dry, and the wind and deluge ended. I perceived the sea making a tossing and the whole of mankind turned to corruption. The corpses floated like reeds. I opened the window, and the light broke on my face and passed away. I sat down and wept; my tears flowed over my face. I perceived the shore at the boundary of the sea, the land rose for twelve measures.

"The ship came to the country of Nizir; the mountain of Nizir stopped the ship, which was not able to pass over it. The first day and the second day there was the mountain of Nizir; the third day and the fourth day the mountain of Nizir the same; the fifth and the sixth, the mountain of Nizir the same. On the seventh day I sent forth a dove and it left. The dove went and turned and found no resting-place, and it returned. I sent forth a swallow, and it left. The raven went and saw the corpses on the water, and did eat. It flew and wandered away and did not return.

"I sent the animals forth to the four winds, I poured out a libation, I built an altar on the peak of the mountain, I took seven jugs of wine, and at the bottom of them I placed reeds, pines, and spices. The gods collected at its burning, the gods collected at its good burning; the gods gathered like flies over the surface. From of old also the great god in his course had created the great brightness of Anu."

There is no date to this record. The inscription said they were copied from still older tablets in the Babylonian libraries, but it could not be told how old those original tablets were from this copy; but which the king thought to have been authentic.

Prof. Pere Scheil made a discovery, about 1896, at the ruins of Sippara of tablets bearing what is supposed, according to the inscription on the tablets, to be Noah's own story of the flood. He says: "It is dated in the reign

of Ammizaduga, King of Babyon, and we know that he reigned about 2140 B. C." This date would be 209 years after the flood, and many centuries before the time of Moses. Noah is still alive at this date, as the record shows that "Noah lived three hundred and fifty years after the flood."

NOAH'S ORIGINAL DESCRIPTION OF THE FLOOD

Parts of the tablet found by Professor Scheil were so defaced and broken that the inscription could not be deciphered; and these are indicated in the following by blanks.

"That———That he has———That he should kill, that he should destroy———In the morning that he should rain down the extermination———That during the night he should prolong———That he should rain down inundation———The plain he will make its ruin great: the city. That which Ramman shall have accomplished in the city———He says he will overturn the land———He raises a cry———The gods will not fear———(Here follow several entire lines too mutilated to read.) Ea spake the word, and said to me, why wilt thou make men to die? ———I will reach out my hand to men———The deluge of which thou speakest———Whatever it may be, I ———I, shall I have produced in vain———He shall be informed of it———To the end that he build———And he shall beget———And they may enter into the ship ———That Pirnapistim (Noah) that the oar———That he may come———That he may take———That he ———(Here come more mutilated lines. At this point George Smith's tablet is substantially the same, in the recital of Noah's personal experiences of all the wonderful circumstances of the flood). Noah says: Let me reveal to thee the story of my preservation and the hidden thing of the gods let me tell thee. The city of Surippak, which thou knowest is placed on the Euphrates, that city was very ancient when the gods within it. To make a deluge the great gods brought their hearts, their father, and their king; their Councilor, the warrior Bell; their Throne-bearer, the god Adar, and the god Ea, the Lord

of the underworld repeated their decree. I this destiny hearing as he said to me, Oh! man of Surippak? Son of Ubarratutu, destroy the house and build a ship. For I will destroy the seed of life, cause them to go up into the ship all seed that hath life, the ship which thou shalt make———cubits its length in measure———cubits the contents of its breadth and height. Above the deep, roof it over. I understood, and said to Ea, my Lord the building of the ship which thou commandest if it be made by me, they will laugh at me, the children of the people, and the old men. Ea opened his mouth and spake to me, his servent, If they laugh at thee, thou shalt say to them every one who has turned from thee shall be punished, for the protection of the gods is over me. I will judge my judgment upon all above and below. Close not the ship until the season when I shall send the word saying, Enter the ship and close the door!

"In the interior of it, thy grain, thy furniture, thy goods, thy wealth, thy man-servents and maid-servents and the young men, the cattle of the field and the animals of the field as many as I would preserve I will send to thee, then make firm the door. The reverent and holy one opened his mouth and spake to Ea, his Lord, no one has made such ship on the ground to hold all the things. The form of the ship let me see and on the ground I will make the ship which thou commandest. On the fifth day two sides were raised, in its inclosure (hull) fourteen ribs also fourteen they numbered above. I placed its roof and inclosed it. Sixthly I made it firm, seventhly I divided its passages. Eighthly its interior I examined, openings to water I stopped. I searched for cracks and the wanting parts I fixed. Three sari of bitumen I poured over the outside. Three sari of bitumen I poured over the inside. Three sari of men-bearers who carried chests on their heads. I kept a saros of chests for my people to eat. Two sari of chests I divided among the boatmen.

"To the gods I caused oxen to be sacrificed. I appointed the portion for each day. And wine I gathered like the waters of the rivers. And food as the dust of the earth. In recepticals my hand placed with the help

of the sun-god, the ship was completed. All was made strong and———And above and below the tackling was fixed. Then to my possessions I took two-thirds. All I had of silver I gathered together. All I had of gold I gathered together the whole. All I had of the seed of life I gathered together. I caused them all to be carried up into the ship. All my men-servents and maid-servents, The cattle of the field and the beasts of the field and the young men, all of them, I caused to go up. The season of the sun-god had fixed, and of which he spake saying, 'I will cause it to rain from heaven heavily.' 'Enter into the midst of the ship and close the door.' That season fixed came round of which He spake saying I will cause it to rain from heaven heavily, of that day when I reached the twilight, The day which I had watched for with fear I entered into my ship and closed the door that I might close my ship, to Buzur-Sadairabu the boatman, the great house, I gave with all its goods. Then rose the water of dawn at daylight like a black cloud on the horizon of heaven. The thunder god in the midst of it thundered Nebo and the wind god marched in front, The throne bearers (storm clouds) go over the mountain and plain, The pestilence god brings with him affliction. The war god goes in front and casts down. The angels of earth carry the destruction, In their glory they sweep through the land. The deluge of the rain god reaches to heaven. The darkened earth to waste is turned. The surface of the earth like fire they sweep. They destroyed all life from the face of the earth. To battle against men they brought the deluge. Brother saw not brother, men knew not one another. Even in heaven the gods feared the flood and sought refuge, they ascended to the heaven of Anu. The gods like dogs in kennels lay in heaps; They cried Istar like a mother and the great goddess does utter her speech, 'All things to clay are turned,' 'And the evil which I proclaimed in the presence of the gods, as I announced in the presence of the gods is that evil As I announced to evil are devoted all my people. And though I the mother have begotten my people, yet like the storm of fishes they fill the sea,' Then the gods were weeping with her concerning the spirits. The gods

on their thrones were seated weeping. Covered with their lips because of the coming evil. Six days and nights the wind, the deluge and the storm go on sweeping away. The seventh day when it approached the rain subsided, and the great deluge which had assailed like a host was appeased. The sea began to dry and the wind and flood ended. I watched the sea making a tossing, and the whole of mankind had turned to clay; like reeds the corpses floated. I opened the window and the light struck my face; I was sad at heart, I sat down, I wept; over my face flowed my tears. I looked at the regions bounding the sea. To the twelve points no land was seen. To the country of Nizir floated the ship, The mountain of Nizir stopped the ship and to pass over it was not able. The first day, the second, the Mountain of Nizir the same. The third day and fourth day the Mountain of Nizir the same. The fifth and sixth day the Mountain of Nizir the same. On the seventh day in the course of it I sent forth a dove. The dove went and turned, a resting place it saw not, it returned back. I sent forth a swallow, it left and turned and a resting place it could not see, and it returned back. I sent forth a raven and it left, The raven went and the corpses (carrion) which were on the water it saw it did eat—it floated and was carried away —it returned not. I sent the animals forth to the four winds of heaven. I sacrificed a sacrifice. I built on the peak of the mountain Adgur, jars by sevens I placed. Below them I spread reeds, pine wood and spices. The gods smelled the odor. The gods smelled the sweet odor. The gods like flies over the master the sacrifice gathered. Then from afar the great goddess in her approach raised up the great zones which Anu had created as his glory. Those days I had thought of and never may I forget them. May the gods come to my altar. May Bel not come to my altar since he did not reflect and make a deluge and consigned my people to the deep, when thereupon Bel in his approach saw the ship stopped. His heart was filled with anger upon gods and spirits. Let none come forth alive. Let no man escape the deep. Adar opened his mouth and spake, he says to the warrier Bel whosoever except Ea can make a design even as Ea

knows and all things he teaches. Ea opened his mouth and spake, he says to the warrier Bel: Oh! thou counsellor of the gods, why, why didst thou reflect and didst make a deluge? Let the doer of sin bear his sin and let the transgressor bear his transgression. May the just Prince not be cut off, may the faithful not perish. Instead of making a deluge, may lions increase and men be decreased. Instead of making a deluge, may jackals increase and men be decreased. Instead of making a deluge, may famine happen and men be wasted. Instead of making a deluge, may pestilence increase and men decrease. I did not reveal the hidden things of the gods to the reverent and wise one a dream. I sent him and the hidden thing he heard when Bel had reflected on his counsel he went up into the midst of the ship. He took my hand and raised me up. He caused me to rise up and placed my wife by my side. He turned himself to us and established himself to us in a covenant. Hitherto Sanas-Napisti (Noah) has been a mortal man. Even now Sanas-Napisti and his wife are made like unto the gods and borne away as then shall dwell Sanas-Napisti (Noah) in a remote place at the mouth of the rivers. They took us, and in a remote place at the mouth of the rivers they seated us. Thus, according to the inscription on the tablet, did Noah personally relate the wonderful story of the flood and his preservation."

While there are some ear-marks of Chaldean religion and superstition in the narrative, as evidenced by the names of the gods, it bears great resemblance, in some respects, to the Mosaic account of the deluge. And so, this story is left for the reader to judge of for himself, without further comment than to say that, if Noah really wrote or told this story, in the language in which it is given, or its equivalent in his native tongue, it is proof of a cultured civilization before the time of the flood, in this territory also, similar to that of Egypt and China. The rhetoric, excellence of speech and the pathos reached, with lights and shades in his descriptive story, are not very greatly surpassed by the story-tellers of to-day. It will be noted that this story agrees with the George Smith translation from the tablet found in the library at Nineveh,

particularly in the length of time the flood lasted, viz., seven days; while in the Mosaic account it lasted for forty days and forty nights, and it was one hundred and fifty days before the waters subsided. This record also says the city of Surippak, at which Noah lived before the flood, was located on the Euphrates river. This will be referred to again in the next chapter.

There are many other writings credited to Assyrian and Chaldean literature, but they are said to have been written by Herodotus, and are, therefore, not Assyrian or Chaldean literature, if that be true.

CLIMATIC CONDITIONS IN CHALDEA

The climate at the head of the Persian Gulf is one of extremes, it being very hot in the summertime and very cold in the winter. At present the mouth of the Euphrates river is about 2,600 miles from the Equator; anciently it is supposed to have been 2,800 to 3,000 miles from the Equator. Rawlinson says of the climate: "Even in the more northern part of the country, the district about Bagdad, the thermometer often rises during the summer to 120 degrees of Fahrenheit in the shade; and the inhabitants are forced to retreat to their serdabs or cellars, where they remain during the day in an atmosphere which, by the exclusion of the sun's rays, is reduced to about 100 degrees. Lower down the valley, at Zobarr, Busrah, and Mohammrah, the summer temperature is still higher; and, owing to the moisture of the atmosphere, consequent on the vicinity of the sea, the heat is of that peculiarly oppressive character which prevails on the sea-coast of Hindustan, in Ceylon, in the West Indian Islands, and at New Orleans, and in other places whose situation is similar. The vital powers languish under this oppression, which produces in the European a lassitude of body and a prostration of mind that wholly unfit him for active duties. On the Asiatic, however, these influences seem to have little effect. The Cha'b Arabs, who at present inhabit the region, are a tall and warlike race, strong-limbed, and muscular; they appear to enjoy the climate, and are as active, as healthy, and as

long-lived as any tribe of their nation. But if man, by long residence, becomes thoroughly inured to the intense heat of these regions, it is otherwise with the animal creation. Camels sicken, and birds are so distressed by the high temperature that they sit in the trees about Bagdad, with their mouths open, panting for fresh air."

If the summer temperature is so hot as to be very burdensome, the winter season is uncomfortably cool. Wintertime is the rainy season in Chaldea, and, while frost and snow are very rare, from its close proximity to the gulf, travelers tell us that the air is so damp and cold that it so benumbs the Arabs as to make them fall from their horses.

CHALDEAN FRUITAGE

The fertility of Chaldea in ancient times was proverbial. Herodotus says: "Of all the countries that we know, there is none that is so fruitful in grain. It makes no pretention of growing the fig; indeed, the olive, the vine, or any other tree of the kind; but in grain it is so fruitful as to yield commonly two-hundred-fold, and when the production is at the greatest, even three-hundred-fold. The blade of the wheat-plant and of the barley-plant is often four fingers in breadth. As for the millet and the sesame, I shall not say to what height they grow, though within my own knowledge; for I am not ignorant that what I have already written concerning the fruitfulness of Babylonia must seem incredible to those who have not visited the country."

PLACE AND TIME OF THE BEGINNING

We have, in the foregoing, given an epitome of the history of three of the most ancient peoples and their organized governments, as we find them recorded on the pages of history. We might have given more instances of very ancient peoples, but these are sufficient for our purpose, viz.:

Egypt, 2700, to 4800, to 13,000 years B. C.

China, 2850, to 3113, to a traditionally indefinite time B. C.

Chaldea, 2234 years B. C.

While there is a great difference of opinion in the minds of eminent chronologists as to the antiquity of these nations, hardly any two concurring, the most recent dates that history affords will be taken, because they are believed to be more nearly in accord with the facts, all things considered, as they are gathered from the records of the past. Egypt 2700, China 2850 years B. C., are especially interesting dates, taken in connection with some of the great epochs and events of the history of the race.

An effort will be made to substantiate this view, that the most recent dates are nearest the correct ones, by adducing what we think is a rational and substantial proof that the creation of Man on this earth took place even less than 4000 years B. C. We are totally unable to find anything in the history of the human race to substantiate the opinion as expressed by Ridpath and other fabulists that the race had its beginning thirty thousand or thirty-five thousand years before our era; or even a much longer time ago, as advocated by evolutionists, and made necessary by the doctrine of Darwinian evolution.

It is also proposed to point out the place, approximately, where the great event, the creation of Man, took place. In doing this, it is not from any arbitrary opinion that we might hold on the subject; or from the assumption of any superior knowledge of the facts regarding it, but, in a rational manner, from the assembling of some of the facts of science and history bearing on these problems. The interpretation here given of these facts may differ from some hitherto given to them, because it would seem that such interpretation is more harmonious and conducive to a rational solution of these great questions.

Two of these nations exhibited brilliant civilizations, viz., Egypt and China, and date the organization of their respective governments some hundreds of years prior to the great Deluge related in the Mosaic writings. Even by these most recent dates, which have been adopted, this statement is abundantly substantiated. The dates here given find them both organized monarchies, so there can be no reasonable doubt that the migrations of these peo-

ples to the locality in which we find them took place long prior to these dates, to give them time for their evolution into an organized state of society, sufficient to form a general government. Of course the very uncertain quantity represented by tradition adds thousands of years to the dates above given, but in the presence of reasonably certain dates we have no reason to invoke the uncertainties of tradition.

According to "Usher's Chronology," the flood recorded in Genesis occurred 2349 years B. C.

Both Egypt and China have been found to have had organized governments, monarchies, which had existed for some hundreds of years prior to the date of the flood; also we find that there are no breaks in the lines of descent of these monarchies, such as a universal or world-wide flood would necessarily have occasioned, and that the literature of these nations presents no history, either recorded or traditional, of such a catastrophe ever having befallen either of these peoples.

In Egypt there is no break in the line from Menes, who established the First Dynasty, and organized the monarchy, at least 2700 years B. C., according to the English Egyptologist, Sir Gardner Wilkinson, down to the Persian conquest 525 years B. C.; though there were several changes of dynasty in the time. Egypt, therefore, was not affected by the Noahacic Deluge; and apparently knew nothing of its occurrence.

According to Confucius' table, China's First Dynasty was founded by Fo-Hi 3113 years B. C. Other Chinese historians say 2850 years B. C. It is not material which of these dates is adopted; probably the real truth is that both monarchies were formed near to 3000 years B. C. There has been no break in the line of descent of the Chinese monarchy down to the present time; however, there have been many changes of dynasty in the descent. The same conclusions as that in the case of Egypt must be reached here with regard to China, that it was not submerged and desolated by the flood described by Noah; whether the Mosaic account be taken as being the authentic account, or the story translated by Prof. Pere Scheil from the tablet recovered from the ruins of the

city of Sippara. As the literature of these nations contains not a line in relation to the flood, it is fair to presume that they knew nothing of it. It follows, then, that the inhabitants of these two civilizations were not destroyed by the flood in which Noah played such a conspicuous part. They must, therefore, be reckoned as antediluvians, together with others not destroyed, as we shall show.

From these facts we are forced to the conclusion that this, great disaster though it was, was not a world-wide deluge, but a comparatively local affair, in which every living creature in the submerged area was destroyed, save Noah and his immediate family.

We have great reason to believe that this great catastrophe marks the establishment of the Indian Ocean, with all its adjuncts. Such an extensive cataclysm as this was, and which may have been, for aught we know, brought about by Divine appointment and intervention, as would seem to be the case from the preceding warnings and the order to build the boat; or by the same causes that operated to submerge this continent repeatedly, we are told, since geological time began; and which must have produced great atmospheric, barometric, and terrestrial disturbances, such as are coincident in our own times with earthquakes. The rapid evaporation of water caused by the water flowing over the warm earth in such an extended area would naturally produce torrential rains—to say nothing of the disturbance occasioned by the subsidence, instantaneous as it must have been, of such a large area of the earth's surface; as did the earthquakes at San Francisco and Chili in 1906, which were attended by a veritable deluge of rain lasting several days.

At the time that this great cataclysm occurred, the earth was thought to be of small area as compared to what it is now known to be, and such a terrible widespread calamity would be sufficient to make all who were cognizant of it believe it to be world-wide in its extent. There is no doubt that Noah did believe such to have been the case.

Where the bed of the Indian Ocean now rests was, at this time, doubtless the center of the population of the

world; and the area was densely populated, very naturally, as it was the birth-place and the home of the race up to this time. Noah's story may be substantially true according to his idea of the world.

We are warranted in saying this, because of Noah's own testimony. First, they had a city located somewhere on the banks of the Euphrates river; no remains of such city have ever been found on the present land surface; the city must have been in the submerged territory. Second, Noah lived in or near this city, and its location must have been the one from which the Ark started on its journey; and Noah said that the city had been destroyed. Third, the corpses floated like reeds upon the water, plainly indicating great numbers to have been drowned by the cataclysm.

GROUNDS FOR BELIEVING IN A SUBMERGED CONTINENT

That the area where the Indian Ocean and Arabian Sea now rest was once a continent, or a part of the land surface of the earth, is not only probable, but reasonably certain. There are many grounds for believing that the area covered by the waters of the Indian Ocean and Arabian Sea, with all their adjuncts, was once a part of the land surface of the earth. In the first place, the great string of islands reaching, remotely from Madagascar, and particularly from Australia to the Malay peninsula, form a vast archipelago, extending from the eastern coast of Africa to the western shores of India and China, in a comparatively straight line, running from southwest to northeast diagonally across the Equator. These islands mark the southern boundary of the North Pacific Ocean, and roughly also the southern boundary line of the Indian Ocean.

The flora and fauna are the same on these islands as those on the other side of the Indian Ocean. They are now, or have been, inhabited by great numbers of animals, such as the stegodon, leptobos, rhinoceros, sus, felis, hyena, hippopotamus, tapir and elephant. How should animals up to the size of an elephant come on these mid-ocean islands if they were always islands, and

not a continent, at some time in the past? Even the birds of Madagascar are the same as those of the Malay peninsula; they are of one common type.

Ridpath says: "Certain species of palm-trees, which are disseminated with great difficulty by seed or transplanting, are common in Singapore, the Molaccas, New Guinea, Australia and the western islands of Polynesia. Botanists of great reputation have insisted that this distribution could not have been made without a continuous land-bridge among the countries where this species of palms are found."

This "land-bridge" was once the elevated southern shore-line of the North Pacific Ocean, perhaps irregularly continuous with the southern shores of Africa, with its elevated shore-line so characteristic. The subsidence was not sufficient to entirely submerge this elevated plateau, and so left this string of islands to mark its former location.

"The shoal character of the waters of the greater part of the Indian Ocean is a well known fact of marine geography. That part of the ocean between the thirtieth degree of south latitude and the Equator, bounded east and west by Madagascar and the eighteenth meridian from Greenwich, is very shoal. Should we take our stand on the island of Mauritius or Rodriguez, we should see around us a vast area of shallow sea. Even beyond the borders of this the waters are not deep, like those of the profound Pacific. A relatively slight recession of the ocean, such as we may well suppose to occur in one of these secular movents to which the fluid surface of the earth has been many times subjected in the past, and which we know to be actively in operation—though slowly—at the present time, would lay bare a continent much larger than Australia, in the region between the Malay archipelago and the eastern coast of Africa.

"In like manner the conclusions of geology are at least consistent with the former existence of a continent in what is now the bed of the Indian Ocean. Geology recognizes clearly two secular processes by which a continent existing in this region could have ceased to exist by submergence under the sea. One of these is the settling

or sinking of the low-lying tropical lands in question below the level of the ocean. The other is the encroachment of the sea by one of those vast fluctuations of the presence of which in geological time there are many indications."

The foregoing constitute the positive or rational reasons for believing that a continent once existed in this locality. But we have negative or inductive reasons which substantiate the assertion. In the first place, the human race must have had some geographical starting point on the earth; we may call it "The Garden of Eden," if we choose, but where was it and where is it located? That is a much disputed question, as has been suggested; indeed, it would be difficult, in the whole history of opinion, to find any subject which has so invited, and at the same time so completely baffled, all conjecture as the location of the Garden of Eden.

It must be a location on the earth's surface, toward which the indications of ethnography, philology, anthropology, history and tradition all point alike, as the locality from which all the varieties of the human race might have been diffused, or from which they might have emigrated. The locality of the region satisfying all these requirements best, whether it be located on what is now identified with the land surface or the water surface of the earth, has strong probabilities in its favor; as it is a rule that the hypothesis that is most nearly in accord with, or that best answers to, all the requirements of the case must be accepted, tentatively at least, until a better hypothesis is found. This kind of reasoning must have its weight in deciding the locality of the Garden, to have been a continent now submerged beneath the Indian Ocean. All threads tending to the identity of the location of the region of the origin of the human race lead in the direction of Asia, but suddenly, as it were, for various reasons, they all disappear or apparently run into the ground. No man can identify the location of the Garden of Eden on the present land surface of the earth, meeting all the requirements, as pointed out. I take it that it would be folly to try to point out regions where the great event, the creation of the human race, could

not have taken place, for any reason whatsoever. The Euphrates river is the only geographical clue left, by which the location may be made; all others seemingly have been erased.

Where is the river Pison, which compasseth the whole land of Havilah? Where is the river Gihon, that compasseth the whole land of Ethiopia? And Hiddekel, which floweth toward the east of Assyria? There must have been a change in the physical geography of the country in the immediate vicinity of the Euphrates river since that time.

There is every reason to believe that the river Euphrates, as now known, is the identical Euphrates river mentioned in the Biblical narrative. This river, it is suspected, originally emptied into the river Pison, which, from its description, flowed from the northeast through and watered the Garden until it reached the western boundary at or perhaps a little south of the Equator; there turning and flowing along what is now the eastern coast of Africa, and emptied into the Pacific Ocean; the junction of the two being somewhere along the western course of the river Pison, before it turned southward, and while yet in the Garden. Noah's city of Surippak was built on the river Euphrates, and therefore it must have had its mouth further south and nearer the Equator than now, and it must have flowed through a portion of the Garden of Eden. This river Pison, as a matter of course, was swallowed up in the great cataclysm.

"The river Gihon, that compasseth the whole land of Ethiopia." The land described as Ethiopia in the Mosaic writings is thought to be that part of Africa lying directly south of and adjoining Egypt, now called Somaliland. The land of Havilah would seem to be the more southern part of East Africa, as British or German East Africa. The river Gihon, therefore, must then have flowed along the most northern part of the continent, which now is the eastern shore of Africa. The river having its origin somewhere near the present Gulf of Aden, and emptying into the river Pison. This river also was swallowed up when the Indian Ocean was formed.

The river Hiddekel may have formed the eastern boun-

dary of the Garden of Eden; it cannot be located. The large area of country submerged by the Indian Ocean may have included much more land surface than that which constituted the Garden of Eden, and might well have afforded room for all of the rivers named, and with the subsidence of the land surface all were swallowed up. Thus the rivers mentioned are accounted for, though as boundary lines they are irregular. The size of the real Garden of Eden is conjectural, perhaps varying according to the fancies of the individual, inasmuch as the eastern boundary of the Garden cannot be exactly fixed. The most ancient, and I may say prevailing, idea was that the river Pison is identical with the Ganges river of to-day; but that could hardly be so, if the land of Havilah is located in the African continent, unless the river flowed clear across the entire country submerged to form the Indian Ocean. However, if this be true, the Garden would have extended from what is now the eastern shore of Africa, to the Ganges river in India, and northward in north latitude, to what is now the mouth of the Euphrates and Tigris rivers, thus embracing the entire area now covered by the waters of the Indian Ocean and Arabian Sea; and including the greater portion of India, and perhaps Baluchistan and a part of Persia; if we care to erect a rectangle for the boundary lines of the Garden.

Since writing the above, there has come to our notice a powerful and remarkable confirmation of the theory advanced here, viz., that the river Pison, spoken of as one of the boundary lines of the Garden of Eden, flowed southward along what is now the east coast of Africa, or as the record says: "encompassed the whole land of Havilah." It is found in the extensive ruins of the ancient city of Zimbabwe, recently unearthed in Mashonaland, in southern Rhodesia, Africa.

Because of the inability to locate the river Pison on the present land surface of the earth, the location of the land of Havilah has been a disputed point in the past; some holding that the record in Genesis, speaking of the land of Havilah, the gold of Ophir, and the Queen of Sheba, is a mere fable; while others, failing to see the character of fable in the writing, cannot now locate that land.

There can be no longer a doubt that the land of Havilah and our modern German East Africa are one and the same; the one being the very ancient or traditional, and therefore prehistoric name; the other being the modern historic name for the same land.

Dr. Peters, ex-Governor of German East Africa, declared before the Anthropological Society of Göttingen that: "The rich Havilah of Genesis and Solomon's golden Ophir are identical with the stupendous ruins of the buried city and ancient mines recently unearthed at Zimbabwe." This view is also confirmed by Prof. Von Lushan, of the Berlin Anthropological Society. There seems to be no doubt in the minds of these men that "the Great Zimbabwe is the buried city and ancient capital; and the local Makalanga or 'People of the Sun' are the lighter skinned, native race, with distinctly Jewish traits." "Scattered all over southern Rhodesia are found the evidences of ancient gold mines, and among which are some of the most extensive mines and workings known in the world." It is thought beyond doubt that, "at a conservative estimate, these mines furnished $375,000,000 worth of gold for Solomon's temple."

It is confidently claimed that this city, Zimbabwe, is the metropolis of the ancient gold-seekers, as it furnishes the most perfect and extensive monuments of prehistoric ages, in the form of titanic walls, towers, and temples, which suggest architects and builders at least the equal of those of the pyramids.

"To-day the six-foot python crawls in and out through the holes in the walls of the temple, which the decay of centuries has wrought; bright-hued lizards bask on the conical tower; and bluejays, doves and honeybirds find a welcome shelter in the recesses of the mighty walls. And these, here and there, are cracked and riven by huge forest trees, clad with orchids and festooned with lichen."

It was doubtless from this very spot where the opulent Queen of Sheba, laden with gold of Ophir and other presents, took her departure to visit King Solomon at Jerusalem, whose fame had reached to this far-off region of the land of Havilah—then, but Africa now.

Now, as a matter of course, if the Biblical Havilah is

the same as our modern German East Africa, and the river Pison encompassed the whole land, the Indian Ocean could not have then existed as now.

The vast area indicated as the Garden of Eden, and as a land surface then, would furnish adequate room for the birth-place and home of primitive Man, with all the requirements before mentioned, and also a climate suitable for his necessarily naked condition; it would also furnish him with tropical fruitage the year round, with which to sustain life; at the same time furnishing the best located nidus from which an increasing and developing population might disperse, and migrate to the right or to the left, along a common climatic belt.

It has been claimed and emphasized by some that the dispersion of the human race from that central nidus of his birth-place, wherever it may have been located, took place by diffusion and not by emigration. This, we think, is clearly a mistaken opinion. On this point Ridpath says: "The inquirer will not have pursued the subject far until he perceives that the migrations of antiquity and, indeed, at all times, are governed by general laws, showing the direction and ultimate origin of the ethnic fluctuations by which the earth was populated. We must not suppose that the first men, the first tribes of men, drifted over the continents under lawless impulses, blown hither and thither like mists before the capricious winds, but that all transmigrations by which tribes and peoples were carried into new regions of the earth were under the reign of law."

Thus we assume that emigrants from this central nidus pushed on along the same lines of latitude to the westward, and eventually found the valley of the Nile. Here they halted. They apparently knew a "good thing" when they saw it. In a word, nature was not explored then as now, for the purpose of ascertaining and recording the cold and scientific facts as regards the real resources that are capable of being converted into cash by the holder; but to be admired and embellished and animated, and to be peopled everywhere with exquisitely beautiful, though perhaps imaginary and supernatural, life and action. Life

was a new thing on this earth, and their estimate of it then was not the same as nowadays.

Evidently this people tarried there and made the upper Nile valley their home, establishing the first civilization, in the way of an organized government, known on this earth. The figures and dates heretofore given seemingly contradict this statement, making China the oldest organized government by at least one hundred and fifty years. But it must be remembered that, in each instance, the figures and dates given are estimates by different men, made long after the events occurred, and they may either or both be wrong. But here I am following the generally accepted belief that Egypt was the oldest established civilization and organized monarchy. It is not material, at this time, which was the first to form a government—Egypt or China.

In this way the first settlements in Egypt on the upper Nile can be accounted for, which is in accord with history; instead of the first settlements being in the lower end of the valley at or near Pelusium, as has been suggested by some writers, in accordance with their theories of the origin and dispersion of the race from a central nidus in Asia, as now constituted.

Other families or tribes went westward too, perhaps a little nearer to the Equator, or on the other side of the Equator, and found homes in Africa.

Still others migrated eastward, not far from the Equator, in the same climatic belt in which they lived, and found India, and those peninsular countries of Siam and Annam, and then China, or possibly in the reverse order. In each instance they are different families or tribes, which is sufficient reason for their going separately.

Seemingly some were blessed with having competent leaders, and they prospered as a result, becoming great and sturdy peoples. Others were not so blessed, and so made less successful adventures. Possibly, and very probably, some ethnic differences in the tribes contributed to their successes or their failures; it would be nothing strange if such were the case, just as such things occur to-day.

Just here I wish to digress a little, to notice the fact

that history tells us that, when the Chinese came into that land, they found it inhabited by aboriginal savages, the barbarous aborigines of the country; and that the Chinese migrated thence from their original home in Mongolia. This statement, with others of like import, is used by some writers to disprove the monogenetic theory of the origin of Man; and to prove the existence of a pre-Adamite race.

To us this statement proves and only proves that at least two separate migrations took place, eventually, to the land of China, the Chinese emigrants first going into the country known as Mongolia, and then into China. Perhaps these migrations were separated by long years, maybe hundreds of years; very probably they were. There is no known reason why this should not be the case, as one family or tribe could as well go there as another; and, as before stated, there being different families or tribes, this fact suggests sufficient reason for their going separately.

The later immigrants seem to have had a different stimulus behind and prompting them, and so they took another lead, and by it they progressed, improving instead of retrogressing, and set up what is called a civilization—one that is still living. Perhaps this success might all be owing to the differences existing in the leadership, the bent of mind influencing them. One people, being prompted by a certain set of desires and motives, take one course, with the inevitable result following, that they become savages and barbarians. The other people, taking a different course, because of different promptings and desires, were successful in another line; they became a civilized and progressive people, all owing to their moral conception of life, from the ethical stimulus prompting them. It is a true saying that, men get just what they are looking after, in this world; if they look for trouble, they are sure to find it. This only proves that men may be successful along any line they study and practice.

It seems practically demonstrated that the human race was born with the same capacity, individually and collectively, that it has to-day; perhaps it would be no exag-

geration to say even a greater capacity, because of the absence of an aged heredity, in the transmission of certain constitutional diseases which destroy the mind, as well as the body. But, in the beginning, they were wholly untutored, with the bent of the natural mind, which ever was—and is now—to take the course which leads through the easiest and most pleasing paths, and gives immediate results in finding what they are seeking. This is particularly so when the results sought are pleasure and ease, perhaps luxurious ease. The yielding to passion, taste, object or emotion, without moral restraint; the blind following of the lead of the emotions, tastes or passions without counseling the moral or ethical nature. This is abandonment of all restraint, and being led by the dictates of the carnal nature. How long, think you, it will take, in such an environment, to breed a race of savages? We have every reason to believe that certain of the representatives of primitive Man did yield, just as they do now, to the passions, tastes and emotions which are born of the carnal nature, and which spring up automatically in the minds, during their wanderings over the face of the earth, and, in the end, savagery was the result, when the environment became fixed. They were not savages at once and from the beginning, but only so when the environment became fixed; then every child born in that environment became a savage, if he grew up in that environment.

From our view of humanity, after a careful perusal of the pages of history, such is plainly revealed to be the secret of barbarism and savagery. It is only a matter of the disregard of the ethical nature, partial or complete, that marked the barbarian or the savage from the ethical man, just as it does to-day.

Conversely, certain of primitive men did not yield to those depraved passions, tastes and emotions of the carnal nature; but rather, they did yield to the impulses of moral promptings and restraints; their moral natures were quickened into life, and given the ascendency in their counsels, and therefore their careers were different; their lives took the course of advancement and civilization. Thus all civilizations came about by individualities

yielding to a measure of moral restraint in their conduct; the measure of the yielding is the measure of the civilization, and of the purity of character. Even one or two depraved and dissolute characters in a community make seemingly endless trouble in an ethical society; now, if they were all depraved and dissolute there would be harmony, and that would constitute the environment. This demonstrates the dual character of Man, the ethical or spiritual, and the carnal or material. This is in perfect accord with the doctrine of Man's endowment with a "free moral agency" and government, a doctrine of general acceptance. Environment enters here as an influencing element in either direction, either for civilization or savagery. It does not controvert the theory, but rather it demonstrates its truth.

There is probably not a county in any of the States comprising the United States, here in this twentieth century, A. D., where veritable barbarians, or even savages, may not be found, few or many in numbers; all that holds them in check is their environment. Why is this so? Simply because their moral natures have never been awakened; they have no moral sense. Some such may be and doubtless are the progeny of ancestors of good moral attainments, generally speaking, but these representatives have become barbarians by reason of a predominating carnal nature. You may call it degeneration; as the subject is usually called a degenerate. We emphatically believe there are not now, and there never have been barbarisms, only through the process of degeneration, if the non-awakening of the ethical nature be degeneration, in the inception. After the environment is made up then they are born barbarians and the degeneration may continue indefinitely. But, to prove that it is not technically a degeneration, take one of those children in its infancy, place it in a family of good moral character, where the environment is wholesome and conducive to morality, and note the difference in the character of the future man. The child is very susceptible and capable of being influenced, and the juvenile character can be moulded by associations. The genus *Homo* being by nature a social being, the associations make their in-

delible impress upon the susceptible brain of youth, which continue to influence them through life.

As a demonstration of the proposition that barbarism is only the lapse, the complete dormancy of all the moral nature, how often has it been the case that men at the lowest point of moral "degeneration" (?) have, from a cause outside of themselves, received an awakening of their ethical nature, to be followed by a complete revolution of their lives!

It is inconceivable that the human race was born a race of savages—"just a little step above the brutes around them"—and that it has emerged from the condition of degradation and savagery to its present state of civilization, and made itself what it is mentally and morally by his own exertions. Human nature, *per se,* has no such capacity to accomplish such a task. But rather would I believe that Man was created a normal being, pure at the start, but with a dual nature; and that all savagery is an evolutionary state, brought about by the lapse of and, therefore, the lack of assertion of the moral qualities of character, in the first step; and later, after the lapse into entire abandonment, heredity and environment contribute their powerful influences to complete the degradation to the savage state.

Some one has said that a civilized being is one "reclaimed from savagery." I hardly think that a good definition, because it is not comprehensive; neither does it give the condition which it is purported to define. And then, it necessitates that all civilized peoples must have been preceded by savagery of the same peoples, at some time, which is not always the case. William Jennings Bryan's definition is much better; he says: "Civilization is the harmonious development of the human race, physically, mentally, and morally—not the development of all along one line or the development of a few along all lines, but the full and well-rounded development of all in body, mind, and heart." He adds: "If this is the legitimate aim of life and of activity, we can judge all proposed policies, whether they be economic, political, social, or religious, by the effect which they have in aiding or retarding this development."

But, to come back to and continue our story: Some black men, and some of the same stock that emigrated to Egypt, either before or after, took another direction and found and rested in what is now Australia; and their descendants are there to-day, in each case. Other black men even went eastward and were left on the islands of Melanesia. Some went northward and found a lodgment in Chaldea. Rawlinson says: "The conclusions thus recommended to us by the consistent traditions of so many races, have lately most important and unexpected confirmation from the results of linguistic research. After the most remarkable of the Mesopotamian mounds had yielded their treasures, and supplied the historical student with numerous and copious documents bearing upon the history of the great Assyrian and Babylonian empires, it was determined to explore Chaldea proper, where mounds of less pretention, but still of considerable height, marked the sites of a number of ancient cities. The excavations conducted at these places, especially at Niffer, Senkereh, Warka, Mughier, were eminently successful. Among their other unexpected results was the discovery, in the most ancient remains, of a new form of speech, differing greatly from the later Babylonian language and presenting analogies with the early language of Susiana, as well as with that of the second column of the Achæmemnian inscriptions. In the grammatical structure this ancient tongue resembles dialects of the Turanian family, but its vocabulary has been pronounced to be 'decidedly Cushite or Ethiopian'; and modern languages to which it approaches the nearest are thought to be the Mahra of southern Arabia and the Galla of Abyssinia. Thus, comparative philology appears to confirm the old traditions. An eastern Ethiopia, instead of being the invention of bewildered ignorance, is rather a reality which henceforth it will require a good deal of skepticism to doubt; and the primitive race which bore sway in Chaldea Proper is, with much probability, assigned to this ethnic type.

"The most striking physical characteristics of the African Ethiopians were their swart complexions, and their crisp or frizzled hair. According to Herodotus the Asiatic Ethiopians were equally black, but their hair was

straight and not frizzled; probably in neither case was the complexion what we understand by black, but rather a dark red-brown or copper color, which is the tint of the modern Gallas and Abyssinians, as well as of the Cha'b and Montefik Arabs and the Belooches.

"The hair was no doubt abundant; but it was certainly not woolly, like that of the negroes. There is a marked distinction between the negro hair and that of the Ethiopian race, which is sometimes straight, sometimes crisp, but never woolly. The African races descended from the Ethiopians are, on the whole, a handsome rather than an ugly people; their figure is slender and well-shaped; their features are regular, and have some delicacy; the forehead is straight and fairly high; the nose is long, straight, and fine, but scarcely so prominent as that of the Europeans; the chin is pointed and good. The principal defect is in the mouth, which has lips too thick and full for beauty, though they are not turned out like a negro's."

There are some special difficulties in the distribution of the human race, and this is one of them, that the hypothesis here adopted alone can give a rational explanation of, if we hold to the doctrine of monogenesy of the human race. If we abandon this theory and adopt the doctrine of polygeny, then we may assume that the black race had its origin in Africa—emphatically the land of the negro—and the Mongolian in China, and so on through the list. But eventually this theory involves us in just as great or even greater difficulties, unless we accept the proposition of the location of the Garden of Eden as above stated, and conclude that from thence the negro migrated to Africa largely and the other locations mentioned from this central nidus. In order to deduce from such a situation the natives of Australia and Melanesia, and those Ethiopians in Chaldea, just described, the original stock must have crossed the Indian Ocean through several thousands of miles, a hypothesis hardly tenable under the law of possibilities even, as they were anciently, and are now, neither a migratory nor a maritime people; as they never were known to construct a ship, or even a canoe.

The above presents only a few of the difficulties of the

polygenous theory of the origin of the different races of mankind. More might easily have been adduced, but space forbids. Even from these presented, the polygenous theory is quite as untenable as the monogenetic theory, notwithstanding the great and apparently insurmountable difficulties which attend that theory, and which I am free to acknowledge, and lay no claim to understanding. For instance: I am wholly unable, from any laws in biology that I have been able to discover, to account for the different races of men on the theory of monogenesy. How, for instance, a black man or a negro could be the descendant of a white man, or a Mongolian; or a white man or a Mongolian be the descendant of a negro; since each species have decided characteristics peculiar to themselves, in each instance; and continue to breed through thousands of years those characteristics true to the species, without lapsing in the least, or showing any tendency to reversion to the original stock. All this, I am free to say, is beyond my comprehension, and is not explained by biology. But if the location for the birth of the human race, as pointed out, be accepted, all difficulty to either theory disappears.

If we might say that Man, as used in the first and second chapters of Genesis, is merely a generic term comprehending the genus *Homo* as distinct from another genus; as Equus, which includes the several species of the horse, ass and zebra; and which we have every reason to believe were created substantially as we find them, in each case, and which though related and capable of a degree of amalgamation, but among themselves breed true to the species without lapsing, then we might assume that *Homo* includes all the races of mankind, but not necessarily all springing from one original progenitor; but, as in the case of the Equidæ, from several species of the same genus. This would make *Homo* all one genus, which they are, as proven by their fertility, but not necessarily all of one species. This we believe to be the actual facts in the case. If such were the accepted construction, it would not change the present status of the race in the least, but such a construction would simplify matters very materially and remove all inconsisten-

cies as to the several species of the race. It would solve the enigma: "Where did Cain get his wife?" Anybody might then answer that question, whereas now nobody can answer it. The narrative of Cain indeed implies considerable of a population in his time; emigration had pushed out to the land of Nod. Where this land was located it is impossible for us to tell, but Cain went there and was married, either before or after going. Now, as Cain was the oldest son of Adam, and Adam was the progenitor of the human race, how could there have been considerable of a population in Cain's time? It looks to me like an impossibility. But, if we allow that Adam was merely a representative of the race, let him be black or white; red or yellow; and that there were other species of the genus *Homo,* which might have either preceded or succeeded Adam's creation, this difficulty is solved, without detracting one iota from the record, but rather illuminating it.

It seems to me a plain proposition that the word Man, in Gen. 1-26, stands for the human race, the genus *Homo,* including all the species of the genus. It is apparently just as clear that Adam is spoken of as the representative of the genus, treated as a single individual; as an example of the race for instruction, as this is the beginning of God's revelation of Himself to Man. He made choice of Adam, as the representative to whom He should reveal Himself, the same as He made choice of Abraham and Israel.

But the general acceptation and interpretation of the only record does not and will not accept of such a construction and interpretation; but arbitrarily holds that the one man, Adam, is meant when God said: "Let us make Man in our own image." Therefore, Adam alone must be the one progenitor of the human race, notwithstanding the different and distinct species or races of mankind. And so, though we cannot understand it, as monogenesy is the doctrine taught in "The Book," at least so understood, and which, by the way, must be regarded as the best authority extant on the subject-matter under consideration, if we might only understand it aright, we prefer to proceed on that theory. And now, with the one

original nidus of the human race located in this great central, equatorial belt, the whole question at once becomes illuminated. The distribution of the races of men, as we find them, is capable of understanding, and some of the mists are cleared away; but all the incompatibilities would disappear if "Man" could be interpreted to mean the genus *Homo,* and not the individual Man—Adam.

The family or tribe which were the progenitors of the Indo-European race migrated to the eastward and northeast, and found a home in India, reaching westward to the great plains of Aria, the high-lands of Baluchistan and eastern Persia. In this connection Ridpath says: "The history of language may be cited as one of the strongest proofs of an Eastern origin for the races of the West. The discovery of the radical identity of Greek and Sanskrit made by scholars in the first half of the present century is, of itself, a fact sufficient to establish the Eastern origin of the European Aryans. On no other grounds or hypothesis can we account for the fact that the *Iliad,* the *Æneid,* the *Jerusalem Delivered,* and the *Paradise Lost* are written in the same tongue as the *Vedas.* Either the great epics, and indeed all literature, mythology, and history of the Western nations have been produced by peoples who had the same ultimate derivation with the inhabitants of ancient India, or else the Hindus themselves have derived their culture, as well as their blood, from some fountain in Europe. The latter supposition can hardly be entertained, and certainly not entertained at all by any one who has acquainted himself with the subject-matter and deductions of ethnology. Indeed, it is certain that the ancestors of the European-Aryan peoples came out of Western Asia, and after long ages of wanderings and wars fixed themselves, by discovery, occupation, and conquest, in the respective countries where their descendants, within the historical period, have grown into great and famous nations. It is certain also that in their westward course in the prehistoric epoch they brought with them the language, laws, institutions, manners and customs, ambitions and mental habitudes

which the ancestral tribes had possessed before the beginning of the migratory era.

"By a method of investigation and reasoning precisely analogous to the foregoing, we are able to prove that there never was any general migration of primitive peoples out of Africa into Western Asia. It might be sufficient to say that here also the ethnic lines, in so far as they have been preserved by history, tradition, and language, run in the opposite direction. The westernmost parts of the continent of Africa have, as a general fact, been peopled with migratory tribes from the eastern parts. In ancient times the states and cities which abounded and flourished on the southern shores of the Mediterranean were planted progressively from the east to west. Egypt was the oldest of all. Carthage was one of the younger plantations of that region of the earth. In the westernmost parts of Africa the ethnic lines have been sometimes doubled back by the barriers of mountain and sea, just as in Europe the Celtic race, having explored and, to a certain extent, peopled the southwestern peninsulas of that continent, doubled back and proceeded far to the east before the close of the age of migrations. But it is clear to the student of these exceptional movements that they were made against, and as it were in the face of, the cosmic and ethnic law by which the primitive tribes had been carried from their Asiatic origin into the West. If the study of peoples of Western Asia in ancient and modern times should bring us into contact with Ethiopians and Nigritian tribes—if we should find in certain places the distribution of black men of the ethnic type peculiar to Equatorial Africa, speaking the language of that region and having their manners and customs—we might well suspect that there had been, at some time in the past, a race movement from the direction of the Red Sea backwards toward the Caspian, the Persian Gulf, and the borders of India. But no such evidences have been discovered. On the contrary, the impingement of Asiatic races upon the African coast as far south as the equatorial region is a fact everywhere attested. The movement of mankind in this region has been from the Persian Gulf toward the Red Sea and Abyssinia."

Eventually, migrations from this central nidus were in every direction—westward, eastward, northward and southward—in both north and south latitudes, as the race became older and more and more inured to the vicissitudes of weather and climatic changes. They eventually pushed southward in south latitude, and northward in north latitude. Doubtless it took some time, perhaps some hundreds of years, to bring this about. In the mean time, this same original location was the home, or the great center of the earth's population; and, judging from Noah's story, they made considerable progress. In fact it was the seat of a comparatively cultured civilization. They had even built a city. "That city, Surippak, which Ramman shall have accomplished." An aristocracy had grown up, as Noah mentions his "men-servants" and "maid-servants"; they had "mansions" and "furniture," and great "chests-full" of effects; they did business, and had "gold" and "silver"; and men lived luxuriantly and to a great age, as Noah was six hundred years old when the flood came. No doubt they were very wicked; that would be a very natural result, it being a very densely populated district. A dense population in a small area always tends to breed crime, as in our large cities to-day. Chicago, for instance, has now gained the unenviable reputation of being the wickedest city in the world. Of course, we pride ourselves on being an advanced civilization, if not even so egotistical indeed as to say the most advanced along the lines of civilization of any nation on the globe. And yet, in this twentieth century, A. D., with all the advantages we have, and have had in the past, we are told: "The wickedest city in the world is Chicago"—a city located in the center of this most advanced civilization. Would it be anything strange, then, that in the very primitive times of which we are treating, those untutored men, savages as some would call them, huddled together in great numbers in a comparatively small area perhaps, should be "very wicked"?

It is the opinion of one of Chicago's own citizens, a lawyer, who has been traveling over Europe making a study of criminology, that there are only two places on this earth where life is less respected than in Chicago.

One is a densely populated, semi-civilized portion of Russian Poland; the other is a similarly conditioned location in Calabrian Italy. Are they savages in Chicago?

Thus, it is assumed that the human race was created and continued to exist in this central location until the great deluge came which established the Indian Ocean, and, as a matter of course, destroyed all life in the submerged district; only those were exempt who happened to be located on portions of land which were too elevated to be submerged. The descendants of the few saved people, in many instances, continue to live on those same islands of rescue to this day.

Surely this was a great crisis in the history of the human race. Noah tells us that it was because of the wickedness of the people that "the flood came." From the warnings of its coming, and the instructions for preparations for safety he had been given, it would seem that it was premeditatedly the act of an all-controlling power, whatever the reason may have been. We have mother-birds which, from instinct, when the young are old enough to fly, throw them out of the nest, to force the young to be strong, and to force the young to take care of themselves; thus, by this act, contributing to a successful life of the young birds. Where did they get this instinct?

If the human race had continued to live in the Garden of Eden, and its immediate vicinity, on and on through the ages to come, the great majority of them merely eking out a bare existence, even as some do now, this central nidus, the home of the race, would have become so densely populated from the now rapidly, and still more rapidly, increasing numbers, year by year, that famine and pestilence eventually would have been the necessary result, and which, from its virulence, might have depopulated the earth. Aside then, from the cause assigned to Noah for their destruction, may there not have been a wise design in this destruction of the "nest" of the human race?

Noah, in his narrative, claims that the great cataclysm was produced by excessively heavy rains, lasting seven days (the Biblical narrative says forty days). In that

case the current, caused by the rapidly increasing body of water on the surface of the earth, would naturally have been *from* the high-lands of Armenia, the source of the Euphrates and Tigris rivers, and along the course of these great rivers toward the sea, and would, therefore, have carried the Ark into the Pacific Ocean. But, if the flood were caused by the sudden subsidence of the land surface of the earth, and the consequent in-rushing waters from the ocean adjoining, the current would naturally be in the opposite direction, and would, therefore, carry the Ark toward the high-lands of Armenia, where indeed it is said to have landed; having been carried there on the crest of the furious waves caused by the in-rushing waters from the Pacific Ocean. Even this little incident substantiates the theory here advanced.

We have reason to believe that there were many people located in various places, on land that now forms the shores of the Indian Ocean, who were also saved from destruction by the great deluge. A little figuring will convince the most skeptical that such must have been the case. The flood is said to have taken place in the year 2349 B. C. We find the people of Chaldea so numerous in the year 2234 B. C. as to have an organized government, and so scientifically advanced in civilization as to have invented a plan, and the necessary instruments, to make accurate astronomical observations and calculations, only 115 years after Noah and his three sons and their wives had been saved by means of the Ark, and "set down at the mouth of the rivers." There is no record that Noah and his wife were blessed with any more children after this time. The repopulation of the country, and eventually the world at large in that case, would have to come by descent from these three couples, viz., Noah's three sons and their wives. That is the orthodox teaching, made necessary by the belief entertained by Noah, that the flood was a world-wide flood, and that all life of whatsoever kind was destroyed, save only what was in the Ark.

The average excess of births over deaths in the United States, for the decade from 1890 to 1900, was 17.7 per 1,000, or 1.77 per cent. It may be that the death-rate then was not as high as now; or the birth-rate may have

been higher then than now. It is very probable that it was. The birth-rate was much higher with the Jews in Egypt than now, for when Jacob and his family of seventy souls went down to Egypt, after a residence there of two hundred and twelve years, they numbered "nearly three million people." This would make a net yearly increase of about 5 per cent. So that, instead of calculating the net increase at 1.77 per cent., as in our own time, we will give them all the benefit we can, and calculate a net increase of 5 per cent. for 115 years; beginning with the six progenitors, Shem, Ham, and Japheth, and their wives. Because babies are not born in fractions we will have to allow a yearly increase in stated numbers for some years before we can begin to count the per cent. Here again we will be liberal and allow what would seem to be the limit in reproduction, viz., three, which is 50 per cent., until the number is reached where 5 per cent. will give at least one whole number, which is twenty. This will take five years, then counting 5 per cent. for 110 years. At the end of this time there would be just 2,000 people all told, old and young. After this very liberal allowance for increase, there would be just a little hamlet on the vast Babylonian plains. Rather a small number to constitute a monarchy. However, some of the ancient kingdoms and even monarchies included very small numbers of people.

Genesis 11:2 says: "And it came to pass, as they journeyed from the east, that they found a plain in the land of Shinar; and they dwelt there." Who were they that journeyed from the east? This, apparently, was the first time "they" had seen these plains, and they came from the east to these plains. These people, probably, are a part of the people that constituted the "four nations" or "four tongues." Possibly by this time these people had learned agriculture, at least in a limited sense, and could make use of the wheat and barley which grew indigenously in the Euphrates valley; and had also learned to store up their winter supply of food in harvest time, otherwise they would have had nothing to live on for nine months out of the year, according to the best information we can obtain. We necessarily conclude, therefore, that

on the land which became the shore line of tne Indian Ocean, especially to the eastward of the Euphrates and Tigris rivers, in what is now Persia, Baluchistan and India, there were many tribes and peoples who did not perish in this, though extensive and disastrous, catastrophe —the flood—and who migrated westward along the shores of the Indian Ocean to the fertile valley which constituted the plain of Shinar, and eventually founded the monarchy of Chaldea.

If we knew the location of the city of Surippak, near which or in which Noah dwelt, we fancy we could point very closely to the spot where the creation of Man took place. But that is an impossibility, since we believe it to be at the bottom of the Indian Ocean; but Noah says it was located on the Euphrates river. It was evidently located several hundred miles from where the Ark landed on Ararat, as it was on its journey for several days— "six days and nights," Noah says on the tablet, for the Ark to be floated to its landing-place. The Biblical account gives a much longer time than this, it being one hundred and fifty days before Noah disembarked.

The distance per day a boat would be driven by such an avalanche of water rushing into the subsided area can only be conjectured; the current must necessarily have been a rapid one, as the result of such conditions; and Noah must have traveled from 2500 to 3000 miles from his starting-point to his landing. This would bring his starting-point very close to the fifth parallel; as the head of the Persian Gulf is now about 2600 miles north of the Equator.

The current probably would be, under the conditions we have supposed, very nearly directly north from the in-rushing, torrential waves, spreading over so wide a space, and with the Pacific Ocean for a head, to give the waves momentum. We may, therefore, mark the location of the city, approximately, to be somewhat near the sixtieth parallel of longitude, east of Greenwich, where it crosses the fifth parallel of latitude; and the location from where Noah started on his journey. Somewhere in this immediate vicinity, too, must be located the spot where the creation of Adam or "Man" took place.

CHAPTER XI

WHEN MAN WAS CREATED—FOR WHAT PURPOSE—MAN'S PRESENT STATUS CONCLUDED—MAN'S PROBABLE OBJECTIVE CONSIDERED

In the pages immediately preceding there has been pointed out, approximately, the place where Man was created. In the immediately succeeding pages an attempt will be made to point out the date, approximately, when the great event took place. This being a much disputed question, we premise that, if a different result is obtained by the process here used in solving the problem, from what others have obtained by other processes, or by no real process whatever, only guesswork, it will not be from any arbitrary notion on the subject which the writer might entertain, but because statistics and figures force us to take cognizance of their revelations.

A possible clue that we may have as to this date, aside from and beyond certain historical data, is the approximate net increase per annum, of the human race, by means of the excess of births over deaths. The great question is, the percentage of net increase we are to allow for those primitive times. The excess of births over deaths is an important question, because our reason tells us that, the greater the rate of increase, the shorter will be the time required to produce a certain number, and the smaller the rate of increase, the longer will be the time required. The only way to even approximate that net increase is by statistics kept in our own times. Though it is practically certain that the rate of increase was greater in prehistoric times than it is now.

We have seen that the Jews' net increase, while in Egypt, was about five per cent. per annum; but that probably is excessive, perhaps phenomenal, in the light

of statistics for the last one hundred years in Europe and America. As to a world-wide increase, we have no statistics showing it. While the great majority of the nationalities, of which we have statistics for the last one hundred years, show a much smaller net increase, there are some peoples that show even a greater increase during the last century than did the Jews in Egypt. These are isolated cases, however, and their statistics also may be defective.

There are several good reasons for believing that the rate of increase was greater in primitive times than now. The great age attained by men, as recorded in history, would show a smaller death-rate than now. Then there were not as many diseases to destroy life as there are now. And then, again, they had not begun to cultivate the æsthetic side of life as now, which makes it unpopular to raise large families of children, or indeed any children at all, in some circles; to say nothing of the great prevalence to-day of the crime of infanticide, not to mention the great multiplicity of preventive measures in use to-day. I take it that human nature has always been about the same as now in the passion of sexuality; I see no reason to doubt it in the least. The difference is that, in primitive times, they bided the consequences; now, they do not. So that there is no reasonable doubt but that the rate of net increase was greater in primitive times than now.

From the United States Census Office I procured the following tables of statistics, which throw some light on the subject:

The following table shows the average birth-rate and death-rate, in the countries named, for the decade from 1890 to 1899 inclusive, with the annual excess of births over deaths per 1000 of population:

Countries.	Birth-rate.	Death-rate.	Excess of births over deaths.
United States	35.1	17.4	17.7
England and Wales	30.1	18.4	11.7
Scotland	30.7	18.8	11.9
Ireland	23.0	18.1	4.9
Denmark	30.3	17.7	12.6

Countries.	Birth-rate.	Death-rate.	Excess of births over deaths.
Norway	30.4	16.5	13.9
Sweden	27.2	16.4	10.8
Austria	37.2	27.1	10.2
Hungary	40.5	30.3	10.2
German Empire	36.2	22.5	13.7
Prussia	36.8	22.1	14.7
Netherlands	32.7	18.6	14.1
Belgium	28.9	19.2	9.7
France	22.2	21.6	0.6
Italy	35.5	24.6	10.9
Switzerland	27.7	19.0	8.7
Average	31.53	20.51	11.02

Thus, in fifteen States in Europe and the United States, the average excess of births over deaths was 11.02 per 1000 of population, or approximately one and one-tenth (1.1) per cent.

The following table shows the average annual rate of increase by excess of births, resulting from a division of the increase in number of native white population having mothers born in specified countries, by the mean population of corresponding nativity:

Birthplace of mothers.	Average annual excess of births.
Ireland	11.2
Germany	22.1
England and Wales	31.5
Canada	40.9
Scandinavia	45.0
Scotland	48.3
Italy	48.9
France	35.4
Hungary	58.4
Bohemia	64.5
Russia	61.2
Average excess of births per 1,000 pop.	42.56 or 4.25%

Some of these nationalities, as the Jews, are those whose virility is above the average, perhaps. Taking the two tables together, the average would be 26.76 per 1000 population, or 2.67 per cent. per annum,

I offer still another table, wishing to get all the light possible on the subject.

Hubner's "Geographisch-Statische," for the century from 1800 to 1900, for eight countries. This table includes for the century all the political divisions included in the several states at the end of the century:

U. S. A. increased	from....	5,000,000	to	77,000,000	in century
Russia	"	38,000,000	"	107,000,000	"
German Empire	"	25,000,000	"	56,000,000	"
Austro-Hungary	"	25,000,000	"	47,000,000	"
United Kingdom	"	16,000,000	"	42,000,000	"
France	"	27,000,000	"	39,000,000	"
Spain	"	11,000,000	"	16,000,000	"
Turkey	"	8,000,000	"	10,000,000	"
Sweden and Norway	"	3,000,000	"	7,000,000	"
Total for nine countries...		158,000,000	"	401,000,000	"

From this table we see that these nine countries made a net increase in population in the nineteenth century of 243,000,000, or 158 per cent. increase, a pro rata of 1.58 per cent. per annum, in spite of wars and famines and pestilences. These figures are in whole numbers, and millions at that, and therefore are only approximately correct; they cannot be exact.

These countries include practically all those from which the United States derived its great increase of 1540 per cent. by immigration largely, or to which persons might have gone from the United States, so that, for our purpose, they are practically the statistics for one country.

Here are three tables, two showing the net gain for a decade each, and one for a century, of practically all of Europe and the United States, for times specified. They do not agree in the net annual increase.

One shows 1.1 per cent. net increase per year for a decade.

One shows 4.25 per cent. net increase per year for a decade.

One shows 1.58 per cent. net increase per year for a century.

All these statistics are compiled under different circumstances; probably neither one gives us a true esti-

mate, in the sense of a world-wide estimate. If we add the first two together and average them, we have the average for twenty years of 26.76 per 1000, or 2.67 per cent. per annum. Taking the three tables together, we come as near an average as it is possible for us to arrive at. This gives us a net annual increase of 2.3 per cent. per year for 120 years practically, notwithstanding the extensive wars, famines and pestilences of those years.

We may assume that the average net increase of population from excess of births over deaths, throughout the world, would be in the neighborhood of 2 per cent. per annum, at least in these days. We are convinced that the true figures would be over rather than under these figures; and still more would 2 per cent. be inadequate to count the net gain in primitive times, but we want to be liberal; and will, therefore, calculate the increase at the rate of 2 per cent. even, to avoid fractions and to give opposing opinions all the benefit we can.

According to Bible chronology, the world was created 4004 years B. C., and, at an indefinite time after that, Man was created. There is no way of telling the time elapsing between the first and second verses of Genesis 1; and then there is another time, elapsing between the second and the twenty-sixth verses of the same chapter, just as indefinite.

But, according to the same chronology, the Great Deluge took place 2349 years B. C., or 1655 years after the creation of the world. Now, if we knew how many inhabitants there were on the earth at the time of the Flood, and the rate of net increase per annum, we could then tell exactly when God created Man; but that is an impossibility, since we know neither element in the problem. The only way for us to do, then, is to compute the net yearly increase in the population, from statistics in our own times, and estimate by comparison of conditions, after taking all the different contingencies into consideration; and thus, approximately, arrive at the time when the great event took place. As a matter of course, we cannot tell exactly the year when the creation of Man took place, but by reasoning along lines we are all capable of using, viz., common sense, the time given will be

approximately correct. Our aim, however, is not in particular to show the exact date of the great event, so much as to demonstrate by figures that the world could easily have been populated inside of the Biblical chronology.

Starting, then, on the hypothesis of the monogenesy of the human race, and allowing no time to elapse between the first and second verses of the first chapter of Genesis, or between the second and the twenty-sixth verses of Genesis 1, and allowing the first generation, or thirty-five years, for the first two to become ten souls; then add one each year to the number as the net increase for the next sixty-five years, the balance of the first century, which is away below the probable increase, and certainly very liberal in allowance, and we have seventy-five souls all told at the end of the first century. Now, allow 2 per cent. net annual increase for 1555 years—to arrive at the time of the Flood, 2349 years B. C.

At the end of the 2d century we would have..	379
At the end of the 3d century we would have..	2,591
At the end of the 4th century we would have.	18,417
At the end of the 5th century we would have.	124,252
At the end of the 6th century we would have.	909,056
At the end of the 7th century we would have.	6,585,668
At the end of the 8th century we would have.	49,418,542
At the end of the 9th century we would have.	358,676,519
At the end of the 10th century we would have	2,668,787,042
At the end of the 11th century we would have	19,973,489,259
At the end of the 12th century we would have	138,144,658,665
At the end of the 13th century we would have	1,000,594,834,420
At the end of the 14th century we would have	7,157,963,439,933
At the end of the 15th century we would have	52,081,464,774,589
At the end of the 16th century we would have	383,578,097,053,869
At the end of 1,655 years we would have....	1,130,809,842,190,809

This is more than one hundred million times the population of the globe to-day. I hardly think there were that many people on the earth at the time of the Flood, do you? Very well, have we been too liberal in the allowance for annual increase? Well, then, cut it in two, and we have 565,404,921,095,409. It still takes fifteen figures to express the number. Cut it in two again, and still it takes fifteen figures to tell it—282,702,460,547,704—and this would be only one-half of 1 per cent. annual increase.

Well, allow as many to die from pestilence and famine as there are inhabitants on the globe to-day; yes, be liberal and allow 2,000,000,000, and then we have hardly disturbed the figures 282,700,460,547,704. What can be the matter? One of two things must be wrong, viz., either the rate of net increase is too large, too liberal; or the time allowed is too long—must be. Which is it? One or both? Well, cut it in two again, which will make it one-quarter of 1 per cent. net increase; still we have to have fifteen figures to express the numbers, though the figures are smaller: 141,350,230,273,952. Certainly this liberality ought to satisfy the most exacting.

The trouble is, that 1655 years is too long a time. The rate of net increase, at 2 per cent. per annum, is not too large, but rather it is below the percentage of increase, even in the nineteenth century, A. D.

Now, cut the time in two and see how it will work. Make it 827 years and still we have 84,379,849, an incredible number—more than the population of the United States. The Garden of Eden, as large as we have estimated it to be, would not supply the half of that number with food to live on, supposing that the other half had emigrated to Egypt, China, India, and Africa. So that we are inclined to cut down the time at least one century and still have a population of 1,551,601; this number is more reasonable, but still too large, probably. But we want to be liberal in our estimates; besides there is a large area of land surface in our Garden and the country adjacent thereto—and so, for the benefit of those who consider the time too short, we will give them double the population that China has now, or 800,000,000. This would require 940 years at an annual net increase of 2 per cent. So add 940 to 2349, the date of the Flood, and we have 3289 years B. C., which is 715 years after 4004. This date approximately (more probably 100 years later would be nearer exact) gives us the time that elapsed between the first and the twenty-sixth verses of the first chapter of Genesis; whether the word "day" means a period of 24 hours, or an indefinite epoch of time, to suit the fancy. Man was then created 715 years after 4004 B. C., or in the year 3289 B. C. Not earlier than that,

according to our best judgment, and the statistics we can get to-day.

This result is in striking contrast to the extravagant estimates of Ridpath, who gives the antiquity of Man at "thirty to thirty-five thousand years," but gives us no statistics, or adequate reasons to support his estimates; or, the still more extravagant estimates of evolutionists, who deem time a great essential in their scheme, and therefore place the antiquity of Man at a round three millions of years.

But it is expected that some one will say: "Oh, that's all nonsense; geology shows us that Man must have been on this earth thousands of years before this date, 3289 B. C. Why, the tasks to be performed, the changes to be wrought, to make this earth a suitable habitation for Man, could not by any possibility have been accomplished in the limited time here stated!"

To the first class of philosophers I would say: Geology does not state any time, but men try to make it appear so, from certain and uncertain fossil remains found in the crust of the earth. They assert that such and such must have been the case; we believe that to be the honest judgment of some, while in others it is for no other reason than to substantiate their own claims. It is their own preconceived notions they seek to confirm, rather than to get at the truth or the facts. The appearance of fossil remains, and the surroundings in which they are found, may tell of great age, but how great, as measured by our years, cannot be told—only guessed at, *i. e.,* estimated.

To the second proposition I would say: This class of philosophers limit the infinite possibilities of God, so as to harmonize with the limited possibilities of Man. Besides that, it is not known how much time elapsed between the first and second verses of Genesis; it may have been æons of time. We do not figure from 4004 B. C., but from the date of the Flood; dating back 940 years, which brings it 715 years after 4004 B. C. "In the beginning——" We cannot tell when that was.

As to whether the word "day," as used in the record, means an epoch of time of indefinite length, or a period of 24 hours, we have only to say that no man has ever

defined "day" or "night" any more clearly than is done here: "And He called the light day, and the darkness He called night. And the evening and morning were the first day." Does an epoch of time have an evening and a morning, only in a possible metaphoric sense; and does not the metaphor express the fancy and the imagination of the interpreter, instead of the text?

FOR WHAT PURPOSE DID MAN COME ONTO THIS EARTH?—MAN'S PROBABLE OBJECTIVE

In the preceding pages answers have been found to three of the questions proposed. The other or last question, "For what purpose did Man come onto this earth?" and a part of the original question, "Man's probable objective," are so closely related, so intertwined, so inseparable, that they will be treated together in the following pages.

We ought, perhaps, to offer an apology for entering upon this ground; but it has seemed to the writer that it is an essential part of the general subject, "What Is Man?" that it is necessary to discuss it, in order to make a rational, purposeful, consistent whole.

We will premise by saying, we make no claims of being a theologian; neither do we wish to pose as an iconoclast; but what we shall have to say will be from the standpoint of a "lay member," in an attempt to understand and simplify Man's attitude while here. In doing so, we may possibly tear off some of the false dressings, and rob the question of some of the mysteries that have accumulated through the ages.

As a foundation, or ground-work upon which to erect a structure, in discussing Man's present status, and probable objective, we wish to consider the following: Has Man, inherently, a moral nature, or did he acquire it by experience?

Evolutionists and the advocates of the "synthetic philosophy" deny that Man, originally, had even the shadow of an ethical character; deny even that he was an intelligent being, originally; but, on the other hand, they assert that "Man was just a little step above the brutes

around him" when he first became Man; that all his intelligence has been acquired, and his brain enlarged accordingly, as a necessary result; that all the moral nature Man has now is the result of experience, a wholly acquired condition; that, little by little, step by step, evolution has enlarged Man's horizon, so expanded his nature, that it has given him his intelligence, with all its attributes; so that now Man has grown into, or become, a being possessed of and fully equipped with intelligence, and an acquired moral nature; that Man has improved and made of himself all that he is, by his own efforts; and, in so doing, new and additional attributes have been implanted in his nature, so that, whereas, in the beginning, Man had no more intelligence than the brutes around him, and from which he sprang, having no moral nature whatever, now he has both intelligence and an ethical character; all of which mighty improvement is due to Man's own efforts, and are additional qualities in Man from what he was made with, without the aid or guidance of anything outside of himself. Mr. Darwin holds that even the enlarged brain of Man over that of the monkey is the result of an evolutionary accretion of brain matter, caused by the development of new and improved faculties under the influence of the stimulus of selection; resulting in an enlarged brain with entirely new departments; entirely new and acquired centers of consciousness; and all this by reason of his own exertion, assisted and guided by selection.

The foregoing bring us back to grounds that we have already gone over and shown the fallacy of. This is only another instance in which an organized being is purported to have made use of and exercised a function of which the being is said to have not even the shadow in his original organism; and as a result of his using such function, which he did not have, new and additional brain matter was implanted in the brain of this freak of nature, which gave all the progeny which should follow this new function.

Is there another field in all the realm of reason, where such twaddle would be accorded the standing of reason at all? It would not be any more unreasonable to say

that Man had been created without hands; but, wishing, yea, longing, to play ball, he played ball without hands, until, finally, hands had grown because he had played ball; and thereafter all human beings had been born with hands.

Then, again, knowing human nature as we do, it is an absurdity to say that Man, though he had not a shadow of an ethical character originally, should reach out after and covet, yea, more than that, did actually practice moral principles; when even now, in this civilized land, the strong tendency in at least one-half of the inhabitants is to despise and reject all moral restraint; and that, too, after the moral code is known to all.

The impossibility of Man's using a function or faculty before he has such function or faculty, no, not even the shadow of it, brands this doctrine of "synthetic philosophy" as fiction; and the fact that such action, as above alleged, is contrary to human nature, even in this advanced stage of civilization, brands the doctrine as untrue. But it is consistent with their theory of evolution nevertheless, for is it a possibility that Man could have a moral nature, be it ever so infinitesimally small or embryonic, if his progenitor was any one of the four anthropoid apes?

We have seen, in Chapter IV, the difference between the brains of the ape and that of Man; now, the difference in the brains expresses, to an extent, the difference in the mental qualities of the genera. But there is another element in Man that gives Man his self-consciousness, and that prompts, yea, forces, the brain to act in the capacity of thinking along certain lines which the will points out—that element is the soul of Man. The moral qualities, or the ethical character in Man is an expression of the mentality, along that line of consciousness; and, we may add, if that line of conscious mentality, or that sphere of his nature, is never awakened, or quickened into physiological activity, never will he think along those lines; the faculties in that sphere will lie dormant if they are not awakened, the same as in any other sphere.

We do not know that the ape has any self-conscious-

ness, inasmuch as it has no mind or soul. It is impossible, then, that the ape could be the progenitor of a being having both mind and soul.

The extra brain matter in Man's brain, then, must be the cause of his having the necessary mental qualifications for an ethical character, instead of the reverse, viz., that, having acquired a moral nature, he must have a correspondingly enlarged brain. The latter is certainly getting the cart before the horse.

We have seen that there is no adequate cause set up, in the theory of evolution, for the extra brain matter in Man over that of his so-called evolutionary progenitor, the ape. There is no adequate cause, other than creation by God, for the extra mental qualifications of Man. Man must, therefore, have been created with brain capacity to support a moral nature; Man must have received an ethical endowment from the Creator. It was put there by the Creator when He made Man in His own image. Man has always had the faculties of a moral nature, if only they be quickened into life and made an active part of the being. The moral nature of Man is founded in the likeness to the Divine Nature. The only impetus that Man has, in the direction of an ethical nature, is through that part of Man made in the image of God. It is an undisputable fact that Man has been a more or less moral being all along the ages, from the very beginning, according to his awakening and environment. And it is unanimously admitted by all, who admit the being of God, that Man is a moral and responsible being, existing under the dominion of natural law.

Just here comes in the matter of revelation. How should Man know the true God, unless He revealed Himself to Man? He could not know Him at all. That Man could not and did not know God is proven by the many different forms of Man-made religions of to-day; they were evolved because Man had moral attributes and aspirations, and they cried out for expression, and found it in the different forms invented. It is also a notable fact that all the different forms of Man-made religions have some standard of ethics; some higher and some lower, according to their enlightenment. A notable in-

stance, demonstrating that Man could not and did not know God, without a revelation of Himself to Man, is found in Paul's visit to Athens; after an interval of more than three thousand years of experience, and when Greece was in the heyday of her scholastic civilization, they were in total ignorance of the true God; yet their reason told them that there must be a true God, the Creator of the Universe. Paul said: "Ye men of Athens, I perceive that in all things ye are too superstitious. For, as I passed by, and beheld your devotions, I found an altar with this inscription, 'To the Unknown God'; whom, therefore, ye ignorantly worship, Him declare I unto you." Besides this historically recorded instance, many others might be cited, even to-day, where they have no knowledge of God.

The matter of a direct revelation from God to Man is denied by many, on the ground that it is an impossibility; the chief reason assigned for its being an impossibility is that *they* never had such revelation. In this connection it is worth noticing that, as a rule, no one ever had a revelation, at least which they recognized as such, until they had put themselves in a suitable attitude, mentally and spiritually. Even in this material world you cannot receive, or at least hear, a message over the telephone until you have complied with the law of physics that requires you to place the receiver to your ear. So that it constitutes no argument against direct revelation from God to Man, because some men have never had such revelation. There are thousands of intelligent men who never have placed the receiver to their ears, and so they have never received a message over the telephone. Would that be received as competent testimony tending to show that no Man ever had received a message over the telephone?

It was, therefore, an actual necessity that God should reveal Himself to Man, in order to guide and direct his moral nature in the right channel; and to have a standard established. It can be shown that human nature, and human reason, unaided, has never offered to Man any clear standard of moral quality for actions, and that, even if it could do so, its decisions lack authority to control the will

of Man; so that they are at best but opinions which may be received or not. Notwithstanding this, deists assert that this law is given in nature sufficiently, and that revelation is unnecessary. That argument has no standing whatever in the face of the fact that the ancient Greeks, with all their education and philosophic minds, had no knowledge of God.

A proposition which, it seems to me, all should subscribe, is that there can be no higher form of ethics, or code of morals, than that of the Creator, because He must be the true God. Such a code is said to have been delivered to Moses, and which are perfectly adapted to the wants of all men, in all ages; in the shape of the Ten Commandments. Volumes have been written to show that God did *not,* or that He *did,* so deliver the Ten Commandments to Moses in the mountain. We will not discuss that question here.

God selected the people to whom He should make His revelation of Himself; and did it first by delivering to Moses His code of ethics; supplemental revelations were given through the prophets; and lastly by Jesus Christ; and the world has no other authentic revelation; therefore, this code is the standard authority. This authority tells us that Man is a creature made in the image of his Creator, with faculties capable of giving him a working understanding of his condition here, if he will but use the faculties which he has. It is a fact, then, that Man was placed here under moral, as well as under physical, laws; the moral code we believe to be just as perfect, as binding and as potent, as we know the physical laws to be. God's justice is just as enduring, just as potent, as His love toward Man.

Let me illustrate what is meant by God's justice, and God's love. "God so loved the world (Man) that He gave His only begotten Son, that whosoever believeth in Him should not perish, but have everlasting life." From this it will be seen that God's love for Man, though great, is no greater than His law, else they could not be placed in apposition. The two conditions go together; the one avails nothing without the other. The contingency is set forth in that, if Man will believe on Jesus Christ, God

will bestow on Man everlasting life; if Man will not do this, God will not do the other—a promise made perfectly plain. Yet there are many people who have faith only in the first paragraph, turning a deaf ear to the contingency. They depend entirely on God's love for their well-being now and hereafter, and require no reciprocal action, though an integral part of the proposition.

One more example of God's stern justice toward Man: God would not coerce Man; He would not force anything upon Man against his will; therefore, God gave to Man his own predetermining powers; a free will to do as he should choose in the matter of accepting Christ. To force Man to accept Him would be ignoble, tyrannical, and unjust, and would rob both God and Man of all nobility and glory. God made Man a free agent, not a machine, in His justice toward Man, otherwise Man could not have improved at all; he would have been totally devoid of character.

A future, eternal life, then, is a conditional gift to Man by God. It does not belong to mankind by reason of his having been born into this world, but it may be merited by any Man. Right here is the reason for our considering his present status, and probable objective. Man's present status reveals Man in an attitude of dependency, as a tenant on probation; his future condition depending upon whether or not he accepts of the conditions made in the protocol. The choice of fulfilling the conditions or not, rests wholly with the tenant; a failure to act will bring about the same result as a refusal to comply with the requirements.

It is alleged that Man was created in the image of God. We are led to inquire: In what respect is Man, as we see him and as he appears to-day, a likeness or an image of God? Physically, mentally, morally, or spiritually? If we say physically, then we affirm that God has a form like unto Man. There are those who conceive such to be the case because it is said that God walked and talked with Man. If God is omnipresent, this quality precludes a physical being; but, being omnipotent, He can assume a physical form and presence at any time. One of the great churches of to-day teaches

that "God is a Spirit, infinite, eternal, unchangeable in His being, wisdom, power, holiness, justice, goodness and truth." While this is the wording of Man in part, the concept is that of Jesus Christ, who declares that "God is a Spirit"; so that it is not a physical image that Man bears of God. We apprehend that Man is, in a measure, like unto God in his mental and moral qualities; wisdom or knowledge is the same, whether they be possessed by God or a human being, differing only in degree. Man's knowledge is limited because he is a finite being; God's mental intelligence is perfect, and therefore limitless; He is infinite; but the human mind, as far as it goes, the capacity to reason, and gain and retain knowledge; the understanding, including Man's faculties for a moral character, is the point of comparison. We apprehend that Man possesses the mental and moral qualities, though in a miniature degree, that we attribute to God. The love of truth, honesty and righteousness would be the same in Man that the love of those same virtues would be in God, differing only in degree and limited by Man's concept of what constitutes truth, honesty and righteousness. Of course the perfection of God enables Him to know absolutely what is truth, honesty and righteousness. We believe that the miniature morality of Man is the same as that of God, as far as it goes, as there is but one true standard of morality. But we apprehend that the great point of resemblance in Man to the Creator is the spiritual ego; the soul of Man. This, it may now be said, is the real Man. Man is not the physical entity which we see with our physical eyes; but the spiritual ego, which is unseen by the material eye. We have seen many habitations or tenements in which Man dwelt, but we have never seen Man. That is to say, the ego, Man. We have heard Man talk and sing. It is true he used a part of the body to do this, but it was the promptings and the emotions of the spiritual ego that gave the impetus, playing on the human form, that produced the vibrations which came in contact with a material part of my being that enabled me to hear the Man talk and sing: Then it was the spiritual ego, residing in my body, that took cognizance of the effect of the vibrations, interpreted and

understood them. This, we take it, is the immortal part, the soul of Man; and is made in the image of God. "For the things which are seen are temporal; but the things which are unseen are eternal."

Besides this material world, then, in which all creatures live and move and have a being, there is another very essential element, an eternal will, an infinite intelligence, God's intelligence, which pervades all space and all things, is everywhere. Man's brain, through the promptings of the soul, is the only thing that can form a connection with this intelligence in this material world. Intelligence does not reside within Man's brain only, or *per se*. All that Man knows he has discovered; he did not originate it; that is, Man did not evolve it from nothing. "All things are yours; occupy till I come." Everything existed, all intelligence existed before Man came upon the scene. Man has discovered a great many things, but he never created anything. I mean in this connection any primary principles. Man has made many machines, but that is only the applying and assembling of principles already in existence. His mechanical genius is most admirable. All things were made for Man, and anticipated his coming. For instance: Newton did not make and put into operation the law of gravity; the law existed just as much before as after he discovered it. Of course his discovery of the law added that much to the sum total of the knowledge of Man, but it added nothing to the already existing laws, which is another name for God's intelligence. Man never made any of the elements. Benjamin Franklin did not invent electricity, but discovered it. So every law in every department of physics, chemistry, or even mathematics existed prior to Man's advent here, by virtue of God's fiat, and is a part of the eternal will. Man has discovered very many things, has made great advancement; whether he has made as much of an advancement as he ought to have done is another question. But we believe he is right now at the apex, the highest point of his attainment in the world's history. Knowledge is more widespread, and of a better quality, than at any time in the world's history. In Europe, and especially in America, Man has made great progress in

the direction of material things; and perhaps one-half of the race now living understand the moral laws pretty well; the other half have a very hazy understanding of the standard moral laws. But the great majority of the first half have not adopted what they do know of the moral laws into their personal lives, to the extent that they have adopted and made use of the material or physical laws. The great majority of mankind are negligent and careless about cultivating an ethical character. It is perfectly amazing to note the apathy, the carelessness, the neglect of the generality of mankind with reference to the moral nature of mankind. Just now it is hardly deemed worthy of consideration by the great majority even in this civilized nation. The great thing now is material prosperity, or, as we have before called it, the gold mania, to the sacrifice of all moral principles—anything to get hold of the dollar. This deplorable condition touches all branches of the social, and business, and professional worlds.

So we say that facts or principles, much less material things, are not originated in Man's brain, but are perceived, are drunk in by reason of the brain-cells being quickened into physiological activity; a new brain-cell has been awakened to action every time any man gets a new idea—we may call it discovery. In reality, nothing has been added to this world, since it was created, that is new. Ecclesiastes was right when he said: "There is nothing new under the sun." But Man has made great and mighty changes in the existing things in this earth since his coming. He has practically subdued the earth, and harnessed many of its great forces; the last to be so harnessed and made use of is electricity. Maybe there are other forces just as potent not yet discovered. All this is in accord with his commission. The limit has not been reached, as new brain-cells are being quickened into physiological activity every moment, which means new ideas are being sprung, new discoveries being made, giving a wider range of understanding, and new application of even old principles.

The soul, through the physiological action of the brain-cells, is the only medium of communication between God

and Man. Through the higher spiritual or moral character, one set of faculties are quickened into new life, and are capable of cultivation and improvement. Through the material or carnal nature, another set of faculties are quickened into new life. These are the two extremes of the range of the human mind. The cultivation of either one of these natures in Man, measurably at least, excludes the other, and therefore the cultivation of either one must bring different results than would be obtained from the cultivation of the other. This brings out the dual character of Man's make-up, upon which so much depends. St. Paul is the expositor above all others of this dual character where he says: "For I know that in me dwelleth no good thing; for to will is present with me; but how to perform that which is good I find not: but the will that I would not, that I do. Now if I do that I would not, it is no more I that do it, but sin that dwelleth in me."

The brain may be said to be the receiving-station for Man; the connecting link between two great worlds, the material and the immaterial; the natural and the spiritual; and it is Man's business here to cultivate and perfect the moral and spiritual intelligences of his being. Education in its broadest sense cannot by any possibility be too much cultivated; so of learning in all the different branches, and wisdom to apply this knowledge. Contrary to general belief, there is a great difference between education and wisdom. A person may be highly educated and have very little wisdom; another person may have little education and yet have great wisdom. Wisdom is a combination of discernment, judgment, and sagacity, the result of a happy, natural balance of the faculties, and is capable of cultivation and improvement along with the faculties.

Man, very early in his career, began to take cognizance of this intelligence, and education resulted from the accumulation of learning. What one generation had learned they told to the next, or wrote it down for the next generation to read for themselves. In this way only has knowledge accumulated from the first day to this.

Man, on this earth, may be likened to a plant, being

nurtured and matured for a purpose. God declares that "all flesh is grass"; this is a figurative expression, to show that all flesh is perishable.

Or, if you please, Man is a novice in God's kindergarten, for the development of character. We believe that needs no explanation, only to say that the word "character" is very comprehensive; it covers the whole field of life. It is not what you appear to be, or what you would have people to think you are, but it tells what you are. It penetrates the most secret recesses of your being, and records all your secret emotions.

Character is as diversified as there are individualities. It varies from the most depraved savage, on the one hand, who is an entire and perfect abandon, so far as moral principles are concerned, to the most educated, refined, pure and clean Christian gentleman. So that character, as an expression of the emotions, motives, aspirations, practices and will of mankind, might be compared to a vast kaleidoscope, in that every time you move it, or give it a turn, an entirely new design greets your eye. A complex picture at each turn, but founded on different principles and designs. Each picture may have some beautiful colorings and graceful angles, but in the details there is almost sure to be some incompatibilities somewhere in the picture, simply because perfection is an impossibility in this life.

I have heard people say they were perfect, completely sanctified; they did not and could not sin; but we have never known such an one very long until we discovered that they denied to any one else, than themselves, the privilege of interpreting their actions, to say nothing of the motives prompting the actions. They always set up their own standard. However, some may have very few and slight defects, while others may have no right lines, or bright colorings; an incongruous, motley mass; a conglomeration, composed of incompatibilities, representing no design, no beauty, but rather repugnance and disgust.

Metaphorically, character is a painting that every child born into this world is compelled to put on the canvas; consequently, we see the picture in all stages of completion, varying from the clear, pure white, without even the

scratch-mark of the artist upon it, to the most elaborately designed and completed picture. Man's free moral agency enables him to choose his own colorings, make his own shading, draw his own design. He may make his lines heavy or light, straight, curved or crooked, just as he likes. He may make use of beautifully curved and symmetrical arches and doorways; beautifully decorated rooms and hallways, perfectly proportioned in length, width and height; all forming parts of one grand whole, representing a beautiful mansion. Or, he may outline a great building, with spires reaching heavenward, the whole having vast proportions; but abandon it while it is only in outline. Close by the side of this vastly outlined structure, we are sure to find a hovel; perchance, with all the windows broken out, the doors off of the hinges, no chimney, but the smoke finding its way out through a hole in the roof. But on the inside of the hovel we may find some daubings with colors, all clear cut, but no blending or harmony.

Some paint only flowers, representing all grades of perfection, from the mere outline drawings to the most elaborately complex colorings; but these flowers, if we will examine closely, are totally devoid of aroma; they are only cold, lifeless imitations.

Some are fond of battle-scenes, and every line represents turmoil. Some paint only fire-scenes, and seem to glory in the destructive rage. Others paint only pictures of animals, neatly proportioned, fat and sleek, with coloring perfect; or they may be hideous nondescripts—lean, gaunt and tottering. Some perfer to paint scenes of misery and wretchedness. Others are idealistic, and paint only imaginary scenes of angels and winged seraphs. Here, too, we are apt to find, perhaps in the corner of the canvas, a very moderate dwelling with many imperfections; perhaps it is a hovel, which represents their every-day life.

Another class paint only golden eagles, and are satisfied with nothing less than great stacks of gold, having servants to pile it up for them, while they stand back and admire. While others paint strictly phantasmagoria. Thus

we see all manner of paintings, representing the characters of men and women.

But Man has been advised as to the character that is most acceptable in this race of life by high authority. "That by these ye might be partakers of the divine nature, having escaped the corruption that is in this world through lust. And beside this, giving all diligence, add to your faith, virtue; and to virtue knowledge. And to knowledge temperance; and to temperance patience; and to patience godliness; and to godliness brotherly kindness; and to brotherly kindness charity."

In short, having escaped the corruption that is in this world through lust, add those traits or principles that beautify, ennoble and embellish character. Do not spoil a beautifully outlined picture by adding those traits or principles of action which debauch life, distort and destroy the design. What would be the conditions to-day, if all peoples lived strictly in accord with the Ten Commandments? Or even the one rule which says: "Whatsoever that ye would that men should do unto you, do ye even so unto them"? Can any man answer the question?

Undoubtedly God intended that Man should make the most of himself—physically, mentally, morally and spiritually. But especially along the lines of noble, moral greatness, having a character above reproach; *by virtue of his own choice.* There is no virtue in righteousness, if you are compelled to be righteous; being good because you have to be; therefore, He left mankind to make the choice of the character he is compelled to build, consciously or unconsciously.

I have heard people sing the song with gusto, as follows:

"Oh, to be nothing, nothing,
Only to lie at His feet,
A broken and emptied vessel,
For the Master's use made meet."

I have reason to believe there is no place in God's economy for such a being. We certainly do not believe God wants such a weakling. He is of no use anywhere.

We have no intimation that God ever intended Man to be a nothing; but there is direct testimony, besides every intimation, that God intended that every Man should be a Something.

We take it that Man's mind was a perfect blank when he appeared on the scene of this world's activities. Not a single word, or a single sound was known to his ear; there was no such influence as heredity, or environment to handicap him then, as there is now; his mind was to be developed; he had a character to build then, the same as now. He was created pure, his canvas was pure white. But he was created with a susceptible, dual nature; with that susceptibility was coupled the power of choice, with a free will to back up that choice. The dual nature referred to we will designate as the carnal, or human nature, on the one hand; and the ethical or spiritual nature, on the other hand.

It is commonly taught that there is in this world a personality, called the Devil; an evil spirit, that works by impressions made on the individual through the carnal nature, inducing sin in the individual, of every shade and description. Then, on the other hand, the ethical or spiritual nature is susceptible only to impressions made by the Spirit of God, or the Holy Spirit, inducing in the individual only pure and holy aspirations and emotions.

Now, here we have a perfectly pure personage, such as we have supposed Adam to have been, placed here under the conditions named, during the developmental stage of his existence.

It is just as rational to suppose that there is an evil Spirit in this world, as it is to suppose that there is a Holy Spirit in this world. The only difficulty is to account for its origin and its presence here. If God created the world and all that in it is, then the evil Spirit must be included in the list. All right; that is in harmony with the fact of Man's dual character or nature. Why have a creature with a dual nature, without having an accompanying influence; a spirit capable of administering to that carnal nature?

The progenitor of the human race is started on his career with these two influences ready to administer to his

necessities. Which shall gain the ascendency? Adam was admonished that, just as surely as he listened to the influence of the evil spirit, and acted upon its counsel, he would surely die. What happens? No, what transpires? Just exactly what God's omniscience told him would occur. Adam deliberately disregarded what had been told him. He made his choice, and backed it up by disobeying the command. He did this to satisfy the carnal nature.

Now, whether or not Man lost his ethical standing by a single act of disobedience, in the person of the progenitor of the race, and thereby entailing the doom of destruction on all posterity, unless pardoned, is one of the great questions of the day. If it did, then the infant is just as guilty, by inheritance, as the adult. We believe that it is not essential, only as it brings out the real conditions inherent in the race. If the duality of Man's nature had not been demonstrated in the life and make-up of the progenitor of the race, it certainly would have shown up later in the progeny. And then it would have been too late to call Man's attention to the fact. It would have been like the sounding of the alarm after the escape of the thief. The act of disobedience is in perfect harmony with Man's dual character, and is the keynote to the whole plan; it was no surprise. The one overt act of positive disobedience serves to make the fall a positive condition; whereas, not to have called Man's attention to the overt act at the time would have left it a possible negation, as it requires an awakening of the ethical side of Man's nature in order that the moral nature be cultivated and developed. This very alleged act of disobedience proves conclusively that Man had the capacity, yes, more than that, the proclivity to follow the promptings of his carnal nature. Any man has only to look into a glass to recognize the human side of his nature; he has only to run over, in his mind, his past life to see that the race is prone to carnality in thought, word and deed, as the sparks are to fly upward, because the carnal nature is ever looking to the present physical conditions. The carnal nature is the human side of our make-up, and, as a free moral agent, Man will follow the

dictates of this carnal mind, unless the spiritual nature, having been awakened, steps in to control action. What is commonly and theologically known as "the Fall of Man" is only an illustration of Man's proneness to follow the dictates of his carnal mind; it only demonstrates his ability and strong proclivity, from the very earliest moments of his existence, to follow the dictates of native human nature, to act from the impulse of a carnal motive—a simple fulfillment of his nature. It is one of the results of Man's dual nature, acting as a free moral agent. History and experience confirm this view of Man's make-up, and also show that unless the ethical nature is awakened and pushed to the ascendency in Man's self-government, so that moral self-government becomes the ruling passion of the life, the carnal side or native humanity will act instead; because it is the ever-present element in Man's make-up.

Now the injunction is: "Cease to do evil and learn to do well." Mark that word "learn." Moral self-government is a study; it requires effort, schooling, learning and practice to enforce it. It is then an acquired accomplishment; it is a new structure implanted on the old foundation, and constitutes a new birth; the subject is restored to his original standing before the fall.

The carnal nature is at enmity, at variance with the higher, moral nature; it is not subject to the law, neither can it be. And so, if what we deem the object of this developmental period is to be obtained, the new birth is necessary in order to change the dominating influence of the life from the carnal to the ethical and spiritual. Now, right here comes a great question, viz.: Can Man do this alone? This question has been discussed, *pro* and *con.*, throughout the ages. The consensus of Christianity is that he cannot, because he is spiritually dead, and it requires a vivifying force from without to awaken a new spiritual life. But, when this new spiritual life is awakened, the promptings for action and self-government will flow from the moral and spiritual, instead of the carnal nature; and the object of this probationary state will have been attained.

Man was constituted, at his creation, just as he is now

constituted. Growth may result from following either side of his nature, the carnal or the ethical, but not along the same lines; and this constitutes the true evolution of the subject. From Man's experience and learning possibly his being is intensified and enlarged; but, after all, the enlargement and intensification of humanity, from the more than four thousand years of experience, the same human nature, the same natural Man exists to-day as in the beginning.

If the foregoing presumption is approximately correct, it follows that Man's mind was uninfluenced by any previously existing sin, wrong, or wickedness on this earth; his canvas was pure white; not a single outline mark upon it. Then, whatever of sin, wretchedness and wrong there is now in this world among men is the result of Man's own choice—the free exercise of his endowment with the quality of a free moral agency. It makes no difference whether he is simply led on and stimulated by the appetites and emotions of carnal humanity, without consulting even a modicum of wisdom in the matter, or whether the carnal Man is administered to and influenced by an evil spirit.

Right here again is a great controversy. Some say: How could Man, in such a condition as we have supposed him to be, know what was right and ethical, or wrong, knowing nothing about either course, having had no experience whatever?

We freely admit that is a hard question to answer, to the satisfaction of all. There is but one way out of the dilemma, besides the usual theory of the warning given, that we know of. We have referred to it before in these pages. There is, in Man's consciousness, a monitor that tells him what is right and what is wrong—we call it conscience. The impulse of conscience is instantaneous. In the normal mind it responds at once, as it were, pointing out the way. But if Man will not follow the promptings of this impulse; if he ignores it, and does the deed regardless of the promptings not to do it, then the monitor is of no use. It has failed in its purpose, not because it did not act, but by reason of its action being ignored. The promptings of carnality say, do this; the monitor

says, no, do not do it; but the carnal desires and emotions, being ever present, are so urgent that the deed is done, in spite of conscience. To our mind this is the simple solution of the question, "How did sin and evil come into this world?"

We think this is so because "the carnal mind is at enmity against God." It is the opposite pole in humanity; the material desires, sensual, lustful, are natural to the body, as opposed to the ethical and spiritual. Carnalism deals entirely with the body, and therefore entirely with the present moment. Morality and spirituality deal not only with the present, but also the future; but they deal through the soul, or the spiritual ego, which is the true Man. The subjection of the carnal nature to the approval of the spiritual nature is the goal to be reached by Man here in this life.

We have heard men say: "How do you know what is right or what is wrong? They are purely relative questions: What I might think right, you might consider wrong." That brings out the necessity of having a standard by which to compare. But, if that position is unequivocally true, then there is no such thing as conscience, in the sense that it is a monitor to every human being alike; therefore, we say it is a hard question to answer. This much I know, however, that there is a something within the domain of my consciousness that gives me a lively reprimand at times in my secret moments; and I have every reason to believe that I am not different from common humanity.

From the foregoing it appears that Man was placed here for a decided purpose—a purpose that has to do not only with the present, but with the future of every individual. Does anybody believe, or even think that it was only for the purpose of subduing the earth and raising corn, or reaping wheat, or piling up one dollar upon another dollar? A creature made in the image of the Creator, having no other purpose in life than plowing corn, selling foods, or, worse than all, immeasurably worse, cheating and swindling his fellow-man out of the proceeds of his toil, is unthinkable. These are only incidentals in this life; work is a necessary incidental in

this life, and we wish to make the distinction, viz., that all honest toil, all work is in accord with the wise provision of the Creator who decreed that: "In the sweat of thy brow shalt thou eat bread."

It certainly would be uncomplimentary to the Creator's intelligence to say that He created Man without a purpose, or a design; or for the simple purpose of having him subdue the earth, and plow corn for a lifetime. Not so. The purpose is declared to be that, eventually, Man should become a joint heir with His Son, Jesus Christ, to all the glory of the Father, in His Kingdom; and dwell, in the greater life, with his Creator. Thus giving Man a permanent home, dependent upon certain contingencies, viz., the fulfillment of the law.

In order to make this clear, and perfect His revelation of Himself to Man, God sent His Son to earth to announce in person the plan; and to teach Man by word of mouth, as well as by example, what an acceptable character would be, and how to build it. On going away He said: "I go to prepare a place for you, and if I go and prepare a place for you I will come again and receive you unto Myself; that where I am, there ye may be also." That seems to make it plain that Man has been notified of the design of the Creator. Then He says, He is not willing that any one should perish, but that all should meet the requirements and live. To make it more congenial, and to deal justly and without coercion, He gave to Man the capacity to make a choice—a free will to do in the matter as he chooses. But, at the same time, notifying him that his objective will depend on the contingency of his choice. Thus the alternatives are placed before all. "Which will ye choose?"

Now, if Christ be not risen from the dead, well may we say, with St. Paul: "Then is our hope vain." We turn to Ecclesiastes, who well expresses our condition when he says: "For that which befalleth the sons of men befalleth the beasts; even one thing befalleth them: As the one dieth, so dieth the other; yea, they have all one breath; so that a man hath no pre-eminence above the beast; for all is vanity. All go to one place; all are of the dust, and all turn to dust again."

That surely is a different aspect of the case. It changes the whole scene from that of an intelligible one to that of an unintelligible one. It robs Man of any object in life. Nevertheless, a great many people believe this to be the true state of affairs, simply because they do not believe in the promises as being the Word of God; or that Jesus Christ is the Savior of mankind.

The major pivotal point then, in Man's destiny, is the genuineness of Christ's identity as the Son of God and the Redeemer of the world. The minor pivotal point is Man's attitude toward Jesus Christ as his Savior, providing He is the genuine Christ. If Jesus Christ is the genuine Son of God, as He purports to be, and as He said He was, then the result rests with Man; accordingly as he accepts or rejects Him. There can be no question as to the fulfillment of the promises to the letter, if Jesus is the real Christ; neither can there be any doubt as to His resurrection from the dead.

On the other hand, if Jesus was only a Man, as Renan says He was, an eccentric, egotistical idealist, who sought a quarrel with the Jews at Jerusalem; and sought death for glory, and to perpetuate His name, or words to that effect; then, of course, He was a fraud, and all His pretensions to be the Son of God and the Savior of mankind are falsehoods—pure deceptions by Him, and, as a result, we are at sea. If such be the case, verily our hopes are vain; and we know not what Man was created for. Truly, then, "Jesus is the Light of the world." And on the proposition that Jesus is the genuine Savior of mankind, and the promises relative thereto, we confidently rest our solution of Man's presence here, as well as his probable objective. Otherwise, both are unsolved enigmas.

This is an age of doubt and unbelief in the ethics of Christianity, in high places, right in the places where we would look for the contrary. Among other inconsistencies, think of a Man occupying the chair of theology in one of our colleges who is a skeptic, an unbeliever in the ethics he is supposed to teach as being the greatest of truths. We believe this condition is largely due to the acceptance of the doctrine of Darwinism, or "The Evolution of the Species," the doctrine that teaches that God

did not create Man, but that Man descended from a monkey, and is therefore an animal.

Unbelief in the divinity, and the rejection of Christ as the Savior of mankind, is consistent with this heretical doctrine, Darwinian evolution, just as he meant it to be; and this heretical doctrine is inconsistent with the Divinity of Christ. We are totally unable to harmonize the two doctrines. But we believe the truth will eventually prevail. Man may speculate and persist in his unbelief, may disown his Master; but that will not alter the final outcome, will not change the result in the least, only so far as their own personality is concerned.

A somewhat encouraging phase of the question is that all the advanced civilizations of the world to-day agree that true Christian ethics are ideal, even for this life. Even the most skeptical, the infidel, commends righteousness and a high moral character; and prefers to live in a Christian community, with churches and schools.

We are convinced that, included in the special purpose of God toward Man, as set forth, is the bestowal now of His love and His bounty on Man, having given Man the capacity to enjoy and reciprocate that love, if Man, by the exercise of his own free will, choose that way.

THE END

QH368 .B96
What is man?
Princeton Theological Seminary-Speer Library
1 1012 00028 4952